

FIG.1

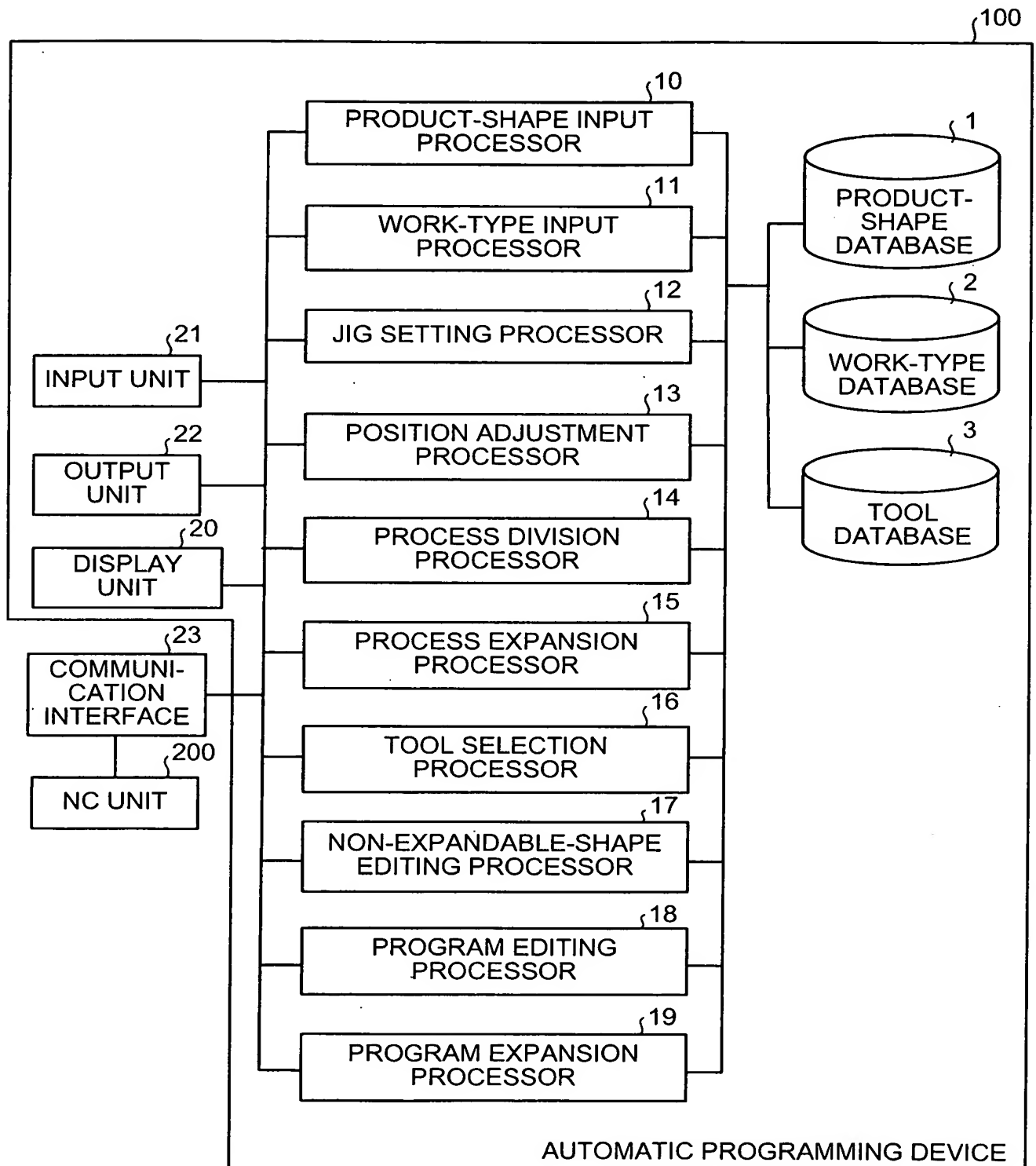
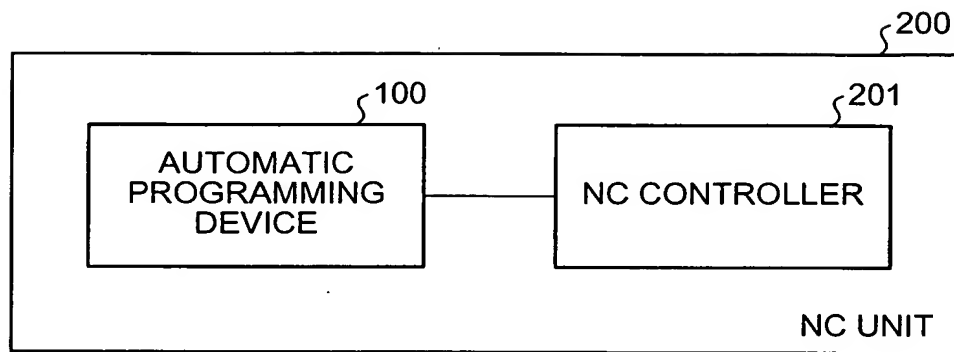


FIG.2



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FIG.3

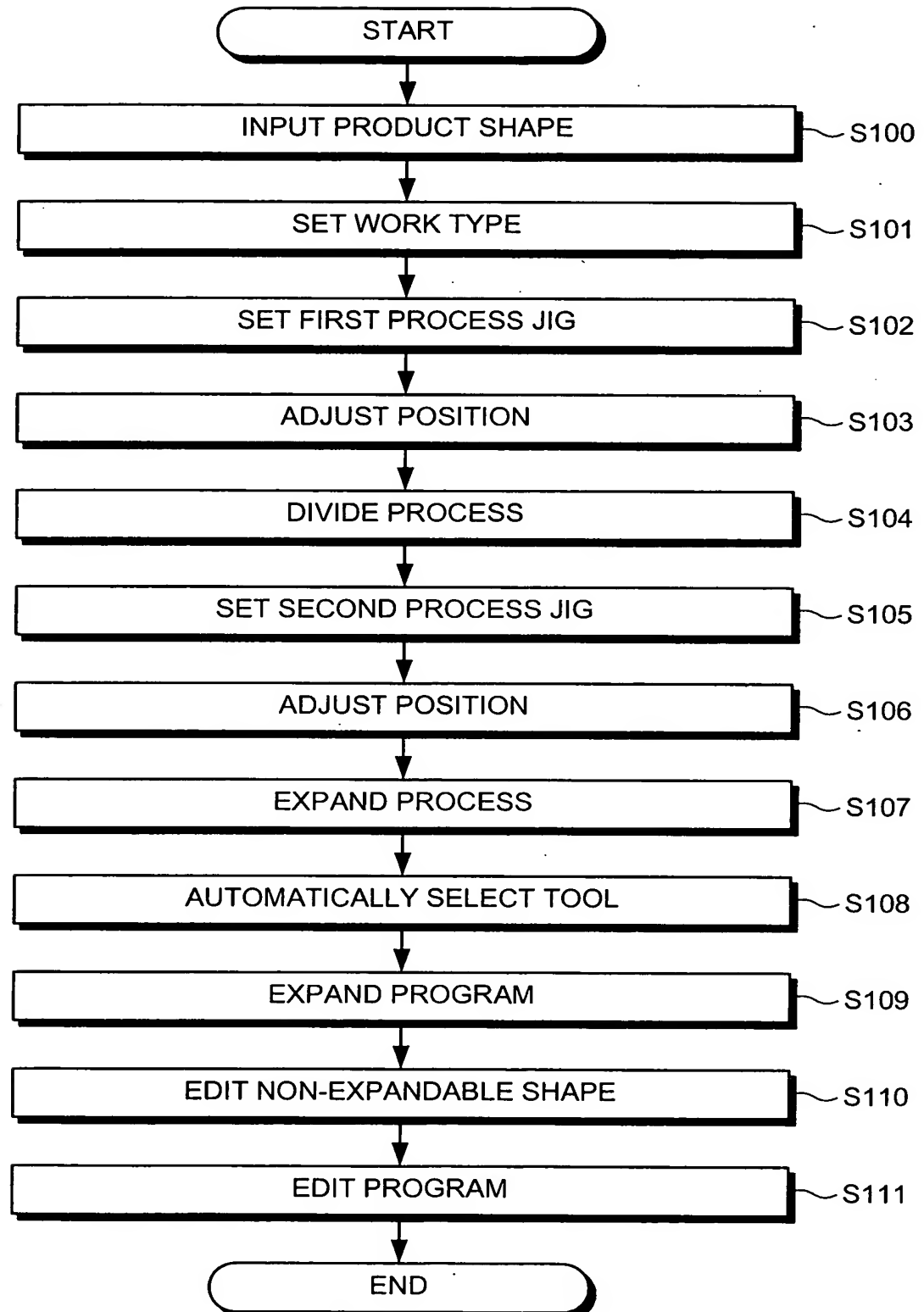


FIG.4

MENU SELECTION MAIN SCREEN

File(E) Help(H)

3D SHAPE PROGRAM

3D SHAPE

BASIC SHAPE

PRODUCT SHAPE

WORK SHAPE

FIXTURE SHAPE

FIRST FIXTURE

FIRST PROCESS MACHINING SHAPE

3 END FACE

4 TURNING DRILL

6 BAR

8 BAR

9 DRILL

SECOND PROCESS MACHINING SHAPE

13 END FACE

14 TURNING DRILL

16 BAR

18 BAR

21 END MILL FACE

23 END MILL FACE

25 END MILL FACE

28 POCKET MILL

30 POCKET MILL

33 POCKET MILL

35 POCKET MILL

38 POCKET MILL

41 HOLE WITH WASHER

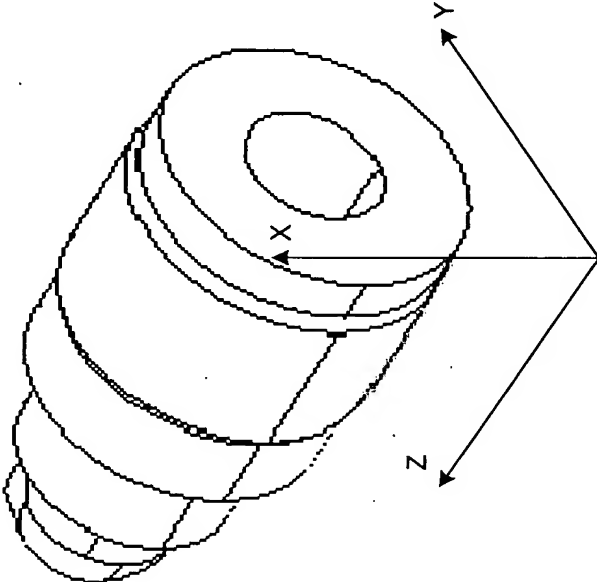
43 HOLE WITH WASHER

45 HOLE WITH WASHER

47 HOLE WITH WASHER

50 DRILL

52 DRILL



2D

6

100% 100% 100%

SET PRODUCT SHAPE

SET WORK TYPE

SET FIXTURE

ADJUST POSITION

DIVIDE PROCESS

EXPAND UNIT

EDIT UNIT

CREATE PROGRAM

6a

6b

6c

6d

6e

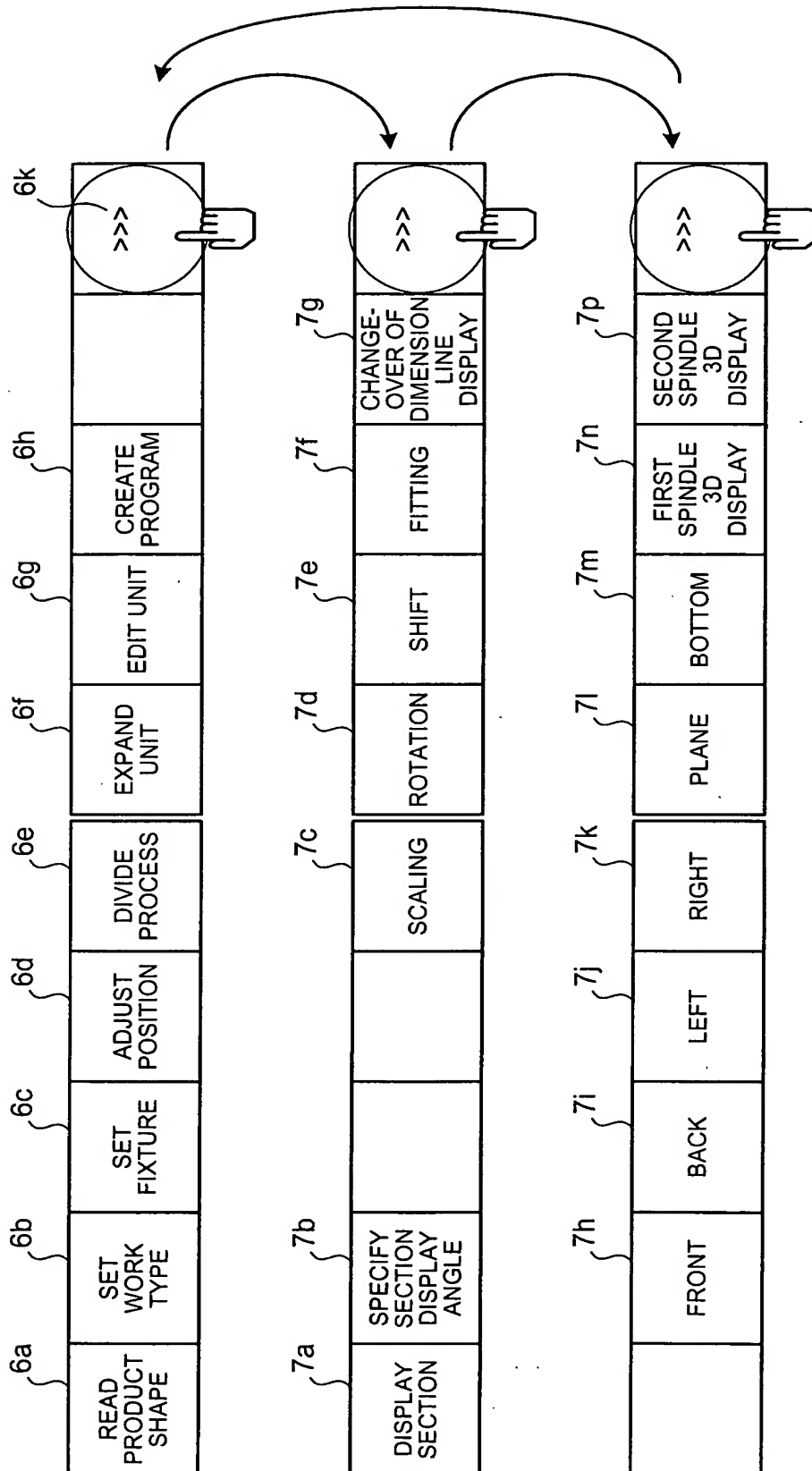
6f

6g

6h

6k

FIG.5



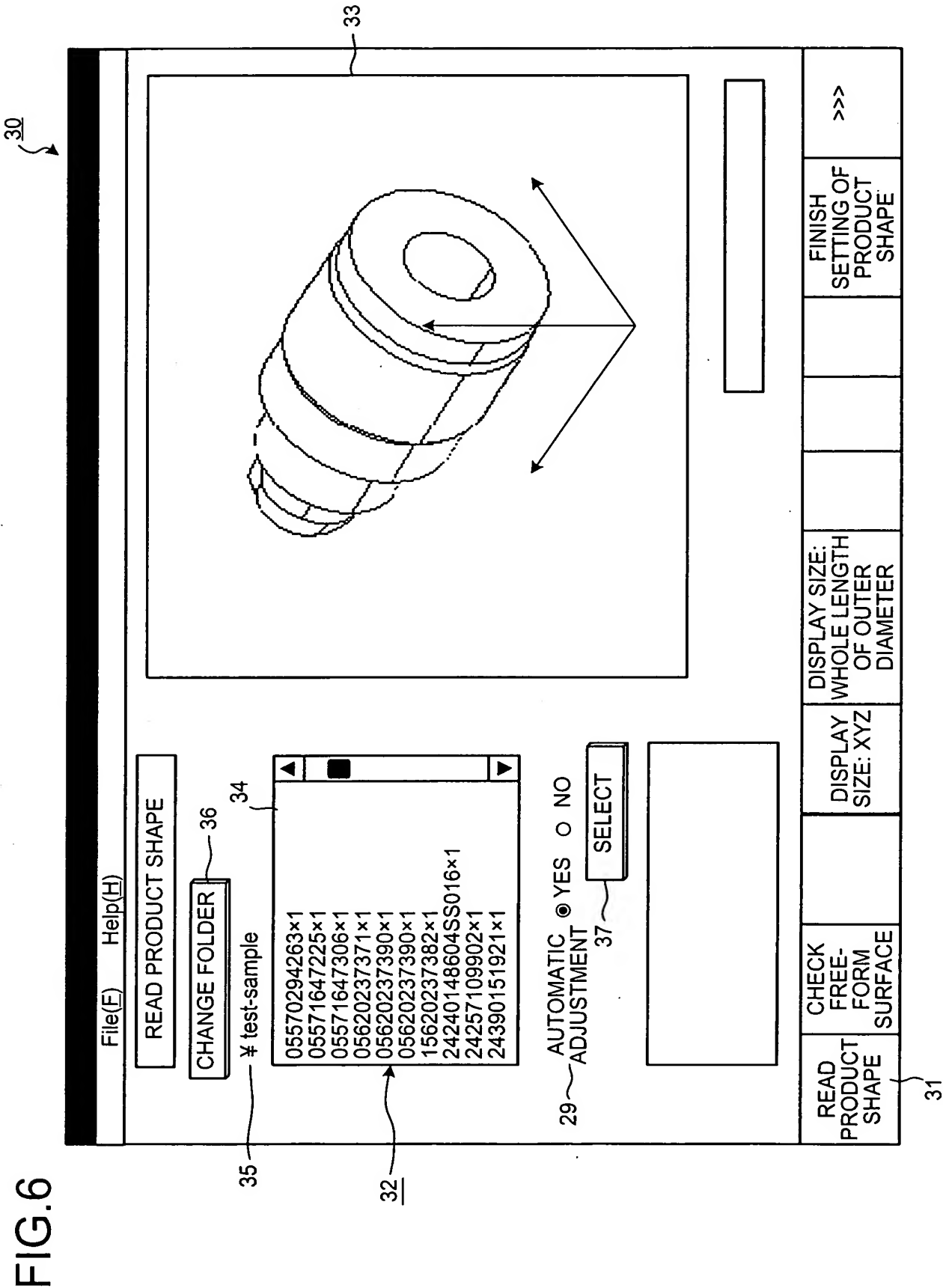


FIG.7

9

9a 9b 9c 9d 9e 9f 9g

WORK DATABASE SET PARTIAL WORK READ WORK MODEL SET WORK MATERIAL EDIT CHANGE MACHINING ALLOWANCE

WORK TYPE SETTING

PRODUCT SHAPE X Y Z 100 100 100

NO.	WORK MATERIAL	TYPE	OUTER DIAMETER	INNER DIAMETER	LENGTH
1	A7075	ROUND BAR	110.000	0.000	130.000
2	A5056	ROUND BAR	110.000	0.000	130.000
3	A7075	ROUND BAR	120.000	0.000	130.000
4	A5056	ROUND BAR	120.000	0.000	130.000
5	CBN STL	ROUND BAR	120.000	0.000	130.000
6	STNLESS	ROUND BAR	130.000	0.000	130.000
7	STNLESS	ROUND BAR	140.000	0.000	130.000
8	A7075	ROUND BAR	150.000	10.000	130.000
9	A7075	ROUND BAR	150.000	10.000	130.000
10	A7075	ROUND BAR	150.000	10.000	130.000
11	A7075	ROUND BAR	150.000	10.000	130.000
12	A5056	ROUND BAR	120.000	0.000	130.000

301 303 300 302

WORK TYPE SETTING

NO. 3

WORK MATERIAL A7075

WORK TYPE ROUND BAR

OUTER DIAMETER 120

INNER DIAMETER 0

LENGTH 130

END-FACE MACHINING ALLOWANCE 0

OK

304 3 OK

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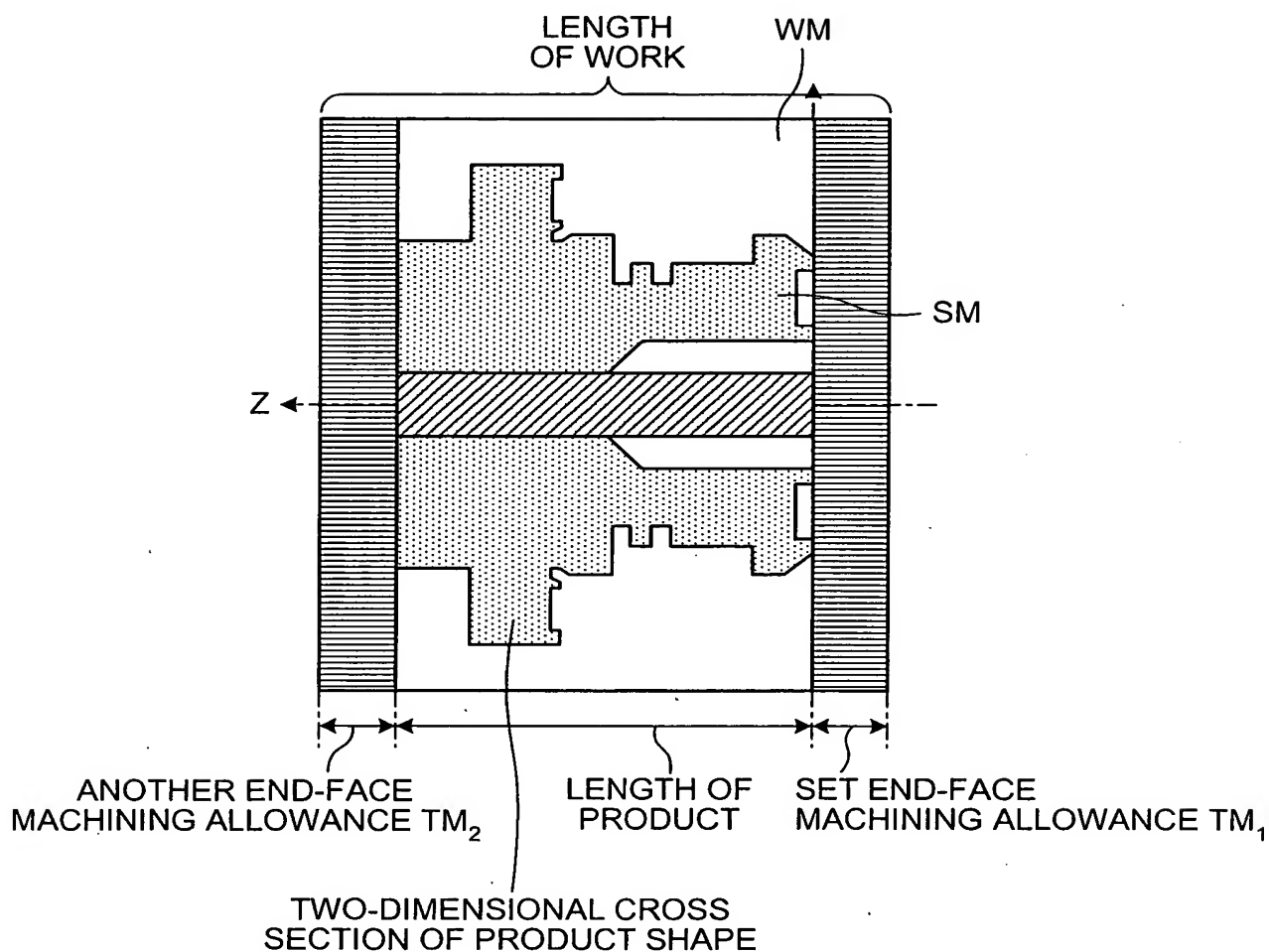
FIG.8

WORK SHAPE

MATERIAL	TYPE	OUTER DIAMETER	INNER DIAMETER
CBN STL	Cylinder	250	20	
CBN STL	Cylinder	250	30	
CBN STL	Cylinder	250	40	
CBN STL	Cylinder	250	50	
CBN STL	Cylinder	400		
CBN STL	Cylinder	400	30	
CBN STL	Cylinder	500		
CBN STL	Cylinder	800	70	
CBN STL	Cylinder	800	100	
CBN STL	Hexagon	300		
CBN STL	Hexagon	300		
CBN STL	Hexagon	400		

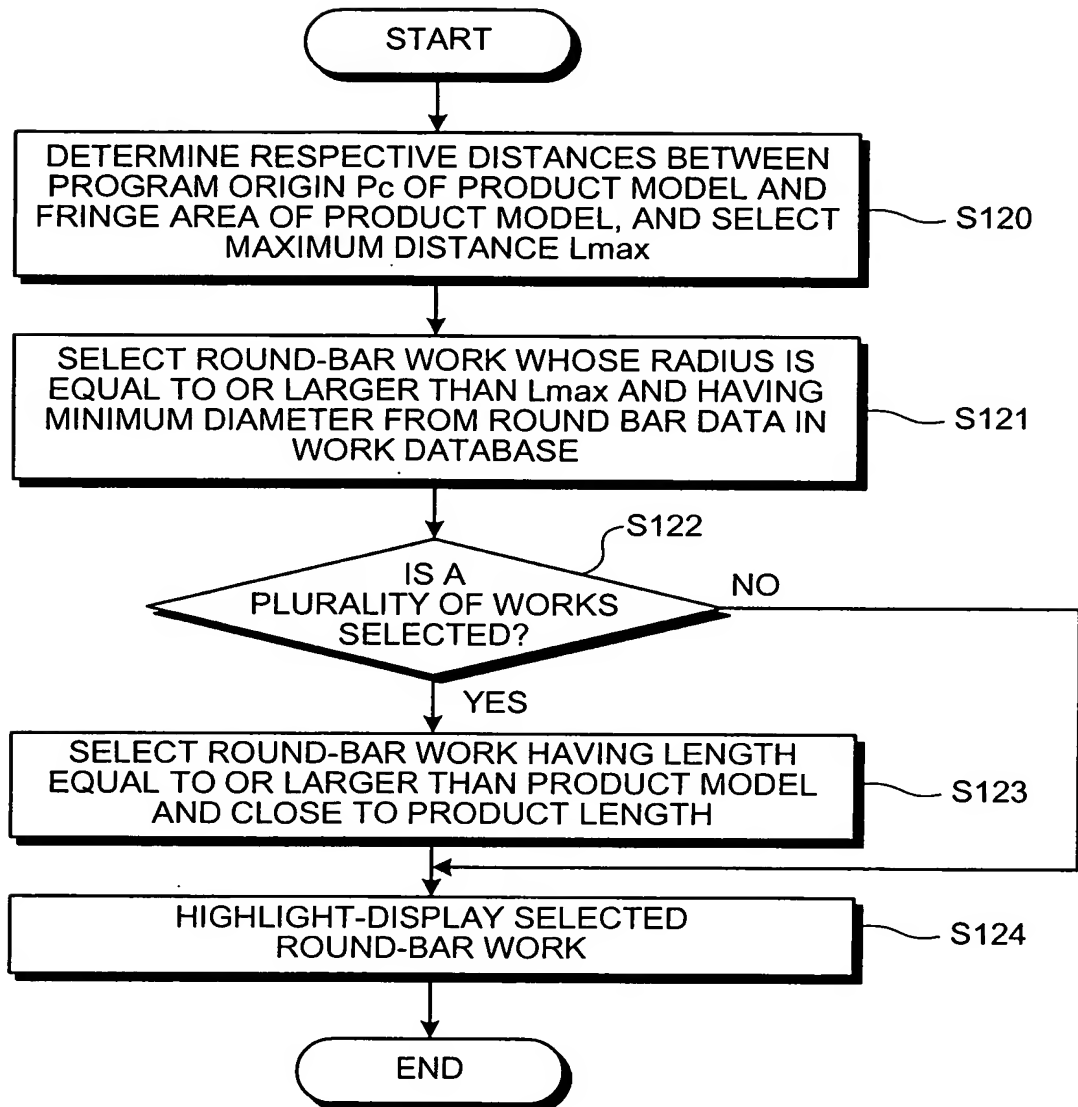
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FIG.9



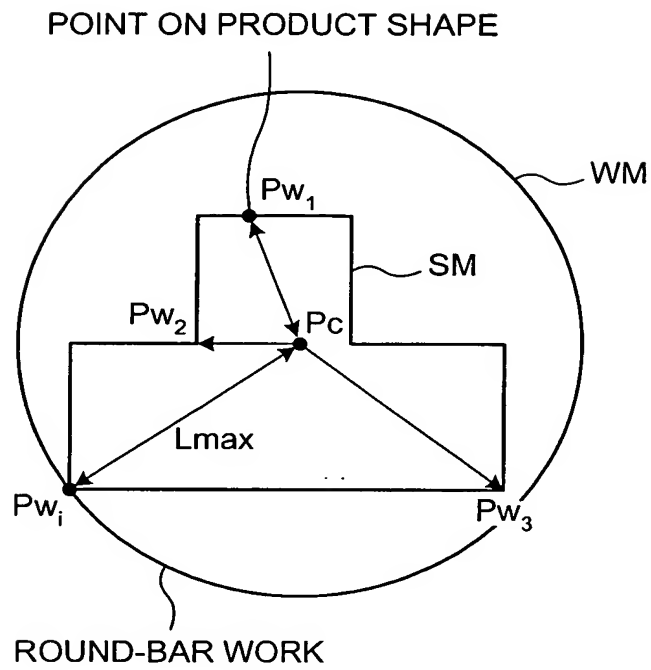
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FIG.10



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FIG.11



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FIG.12

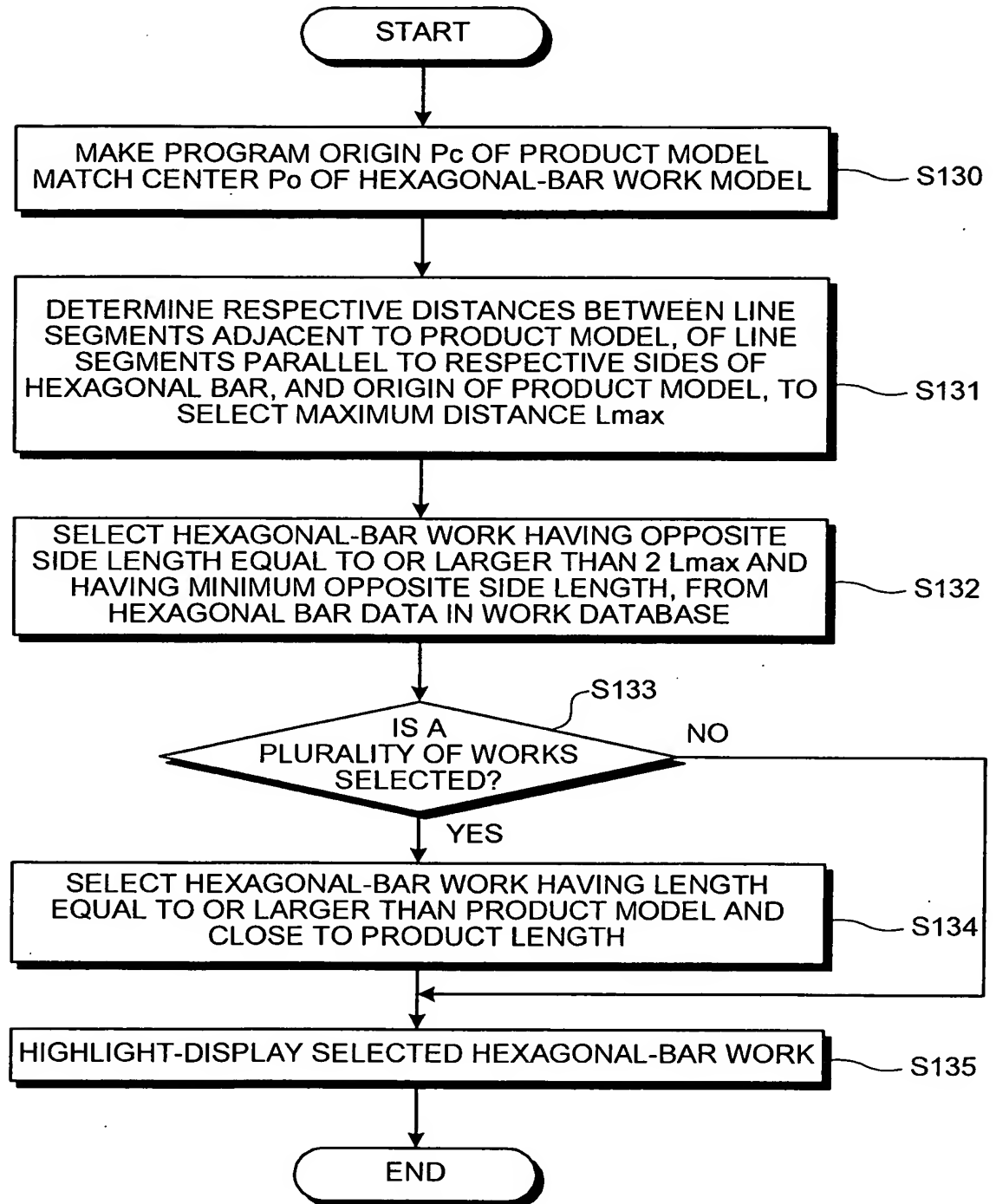


FIG.13

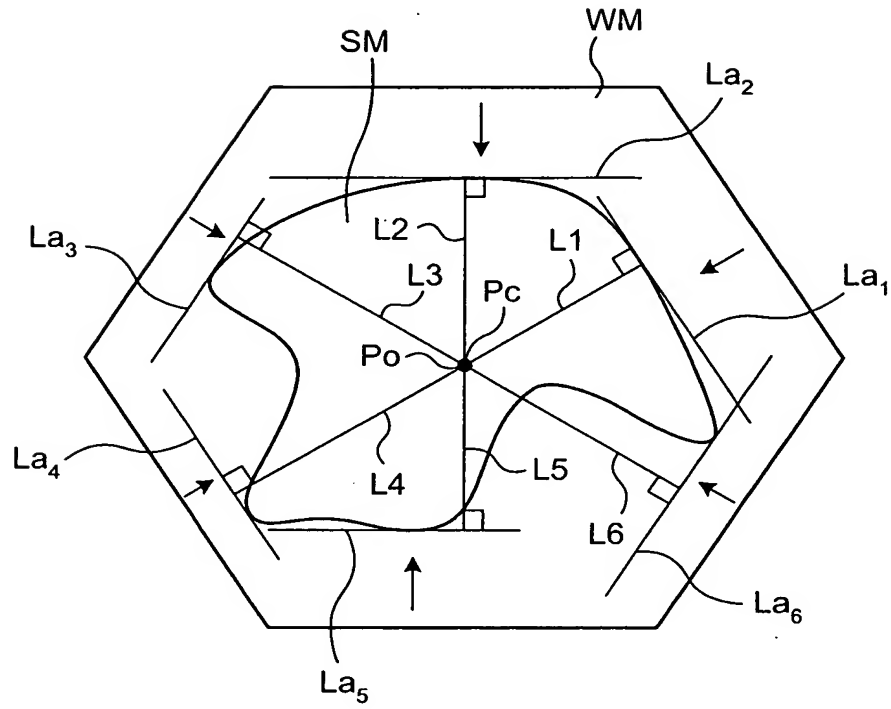


FIG.14

9

9a

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9bm

9bn

9bo

9bp

9bq

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9bs

9bt

9bu

9bv

9bw

9bx

9by

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9cd

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9cf

9cg

9ch

9ci

9cj

9ck

9cl

9cm

9cn

9co

9cp

9cq

9cr

9cs

9ct

9cu

9cv

9cw

9cx

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9jh

9ji

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9jk

9jl

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9ko

9kp

9kq

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9ku

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9kx

9ky

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9md

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9mk

9ml

9mm

9mn

9mo

9mp

9mq

9mr

9ms

9mt

9mu

9mv

9mw

9mx

9my

9mz

9na

9nb

9nc

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9ni

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9pk

9pl

9pm

9pn

9po

9pp

9pq

9pr

9ps

9pt

9pu

9pv

9pw

9px

9py

9pz

9qa

9qb

9qc

9qd

9qe

9qf

9qg

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9sd

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9sf

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9si

9sj

9sk

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9sm

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9sr

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9vc

9vd

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9vf

9vg

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9vj

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9xf

9xg

9xh

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9xj

9xk

9xl

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9xn

9xo

9xp

9xq

9xr

9xs

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9xu

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9xx

9xy

9xz

9ya

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9yd

9ye

9yf

9yg

9yh

9yi

9yj

9yk

9yl

9ym

9yn

9yo

9yp

9yq

9yr

9ys

9yt

9yu

9yv

9yw

9yx

9yy

9yz

9za

9zb

9zc

9zd

9ze

9zf

9zg

9zh

9zi

9zj

9zk

9zl

9zm

9zn

9zo

9zp

9zq

9zr

9zs

9zt

9zu

9zv

9zw

9zx

9zy

9zz

300

301

302

303

304

305

WORK TYPE SETTING

PRODUCT SHAPE

X

Y

Z

100

100

100

NO. WORK MATERIAL TYPE OUTER DIAMETER INNER DIAMETER LENGTH

3 A7075 ROUND BAR 120.000 0.000 130.000

9 A5056 ROUND BAR 120.000 0.000 140.000

100 CBN STL ROUND BAR 120.000 0.000 150.000

5 STNLESS ROUND BAR 130.000 0.000 130.000

15 STNLESS ROUND BAR 140.000 0.000 130.000

20 A7075 ROUND BAR 150.000 10.000 130.000

23 A7075 ROUND BAR 150.000 10.000 160.000

91 A7075 ROUND BAR 150.000 10.000 160.000

94 A7075 ROUND BAR 150.000 10.000 170.000

3

OK

WORK TYPE SETTING

NO. 3

WORK MATERIAL A7075

WORK TYPE ROUND BAR

OUTER DIAMETER 120

INNER DIAMETER 0

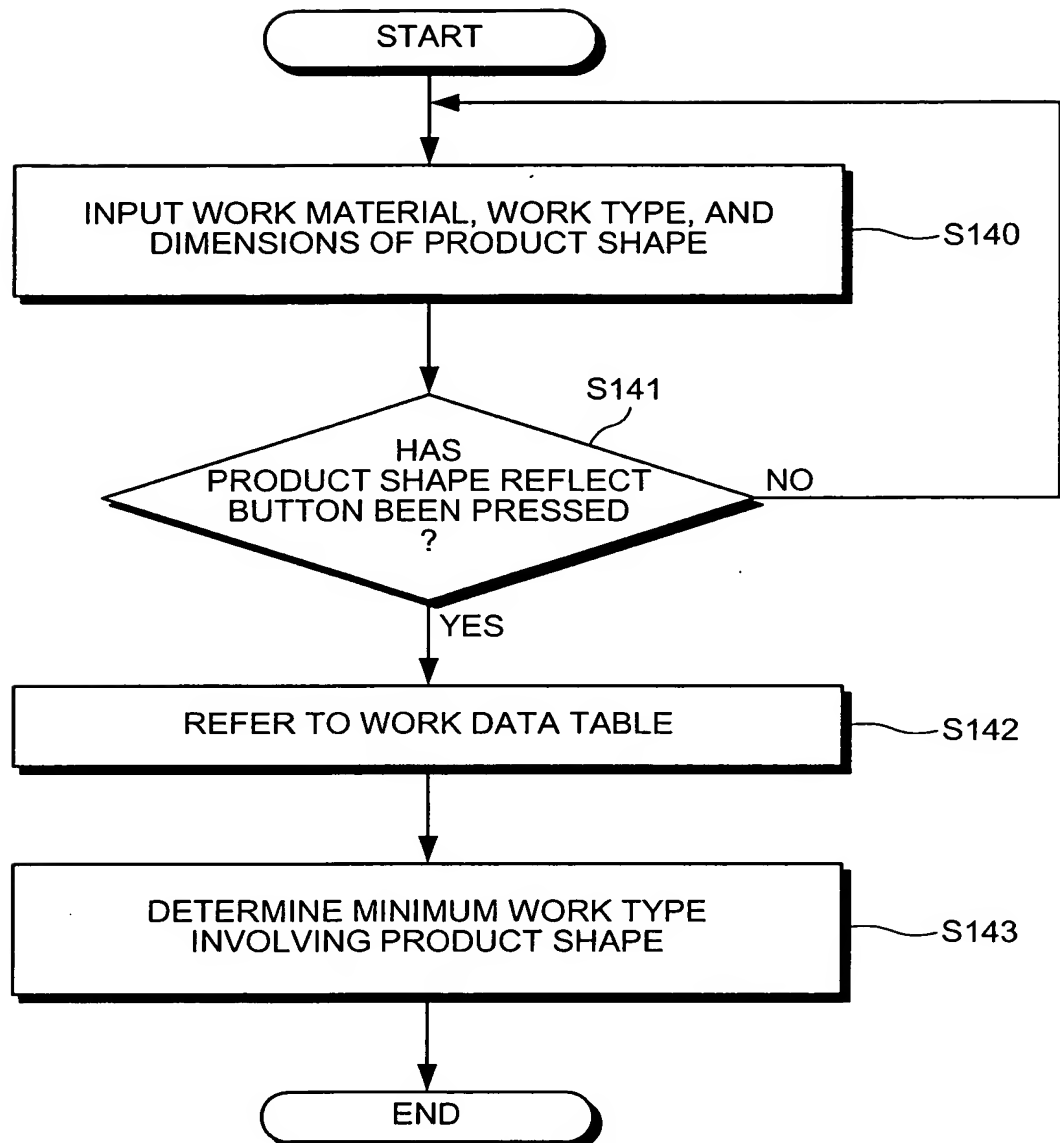
LENGTH 130

END-FACE MACHINING ALLOWANCE 0

OK

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FIG.15



WORK TYPE SETTING

REFLECT PRODUCT SHAPE

X 180 Y 180 Z 150

PRODUCT SHAPE

WORK MATERIAL CBN STL

WORK TYPE ROUND BAR

OUTER DIAMETER 254.5584

INNER DIAMETER 0

LENGTH 150

END-FACE MACHINING ALLOWANCE 0

CREATE

42

FIG.17

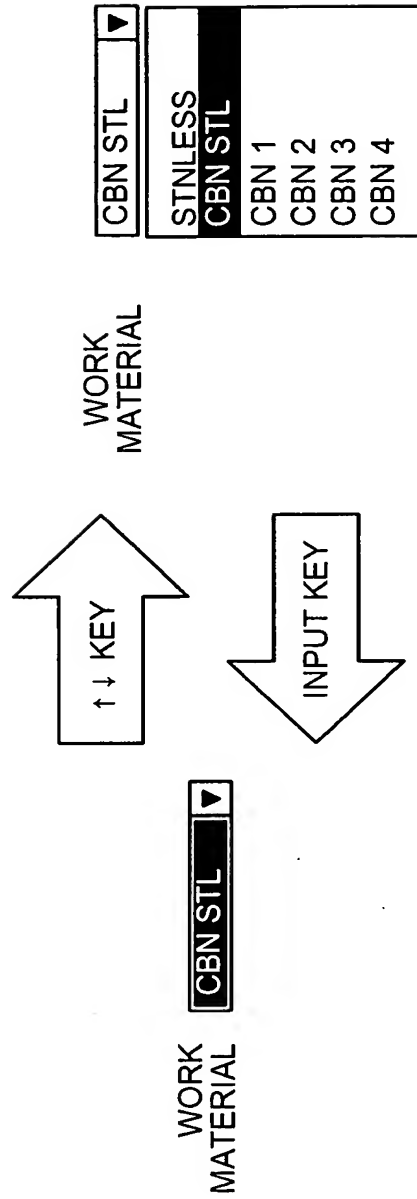
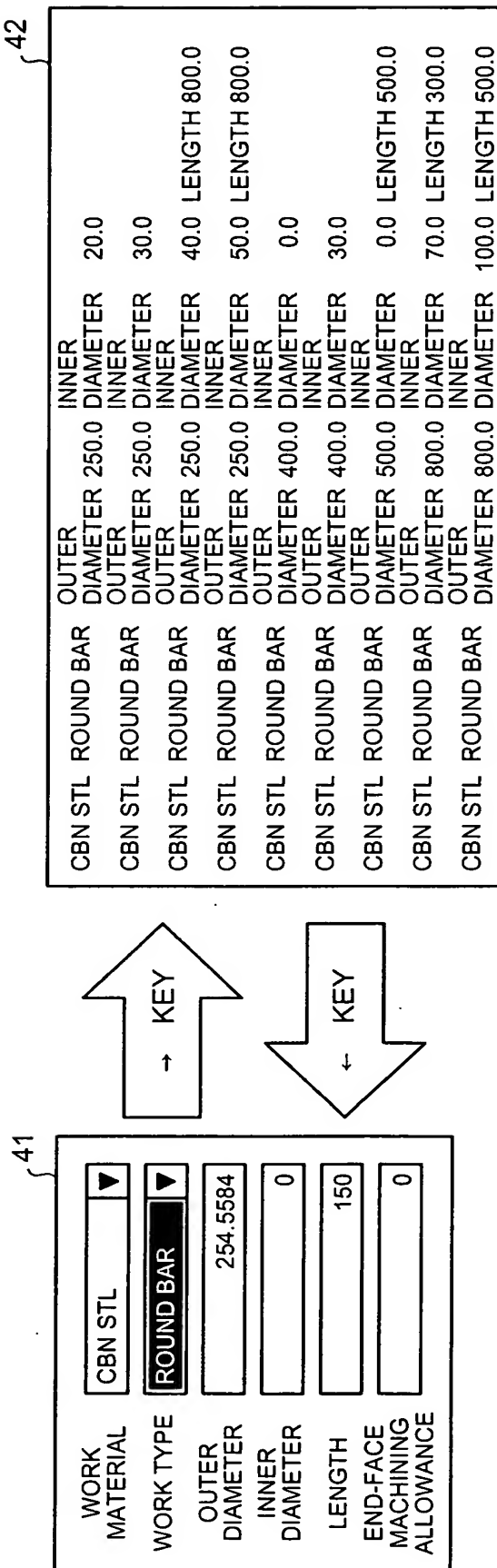
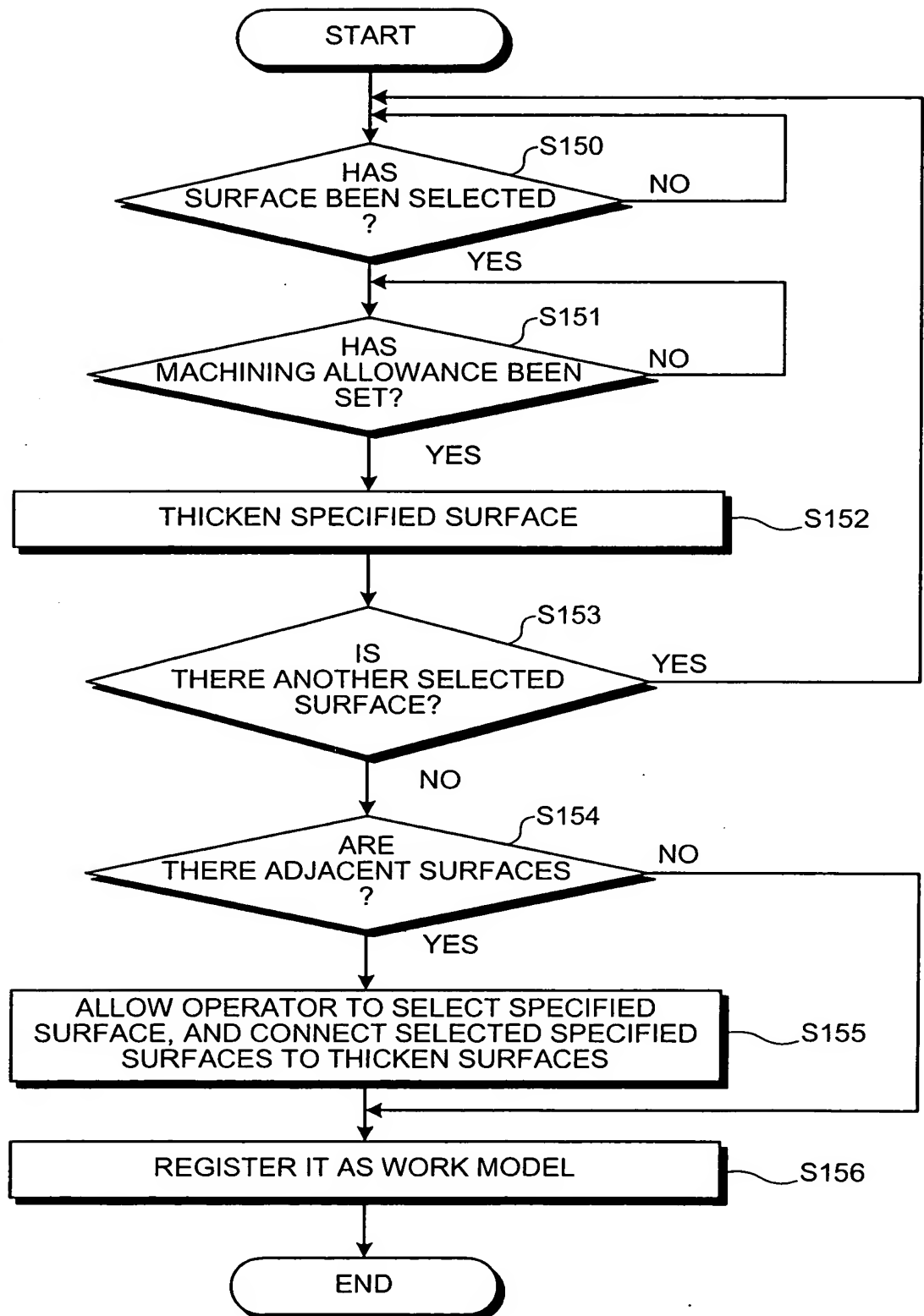


FIG.18



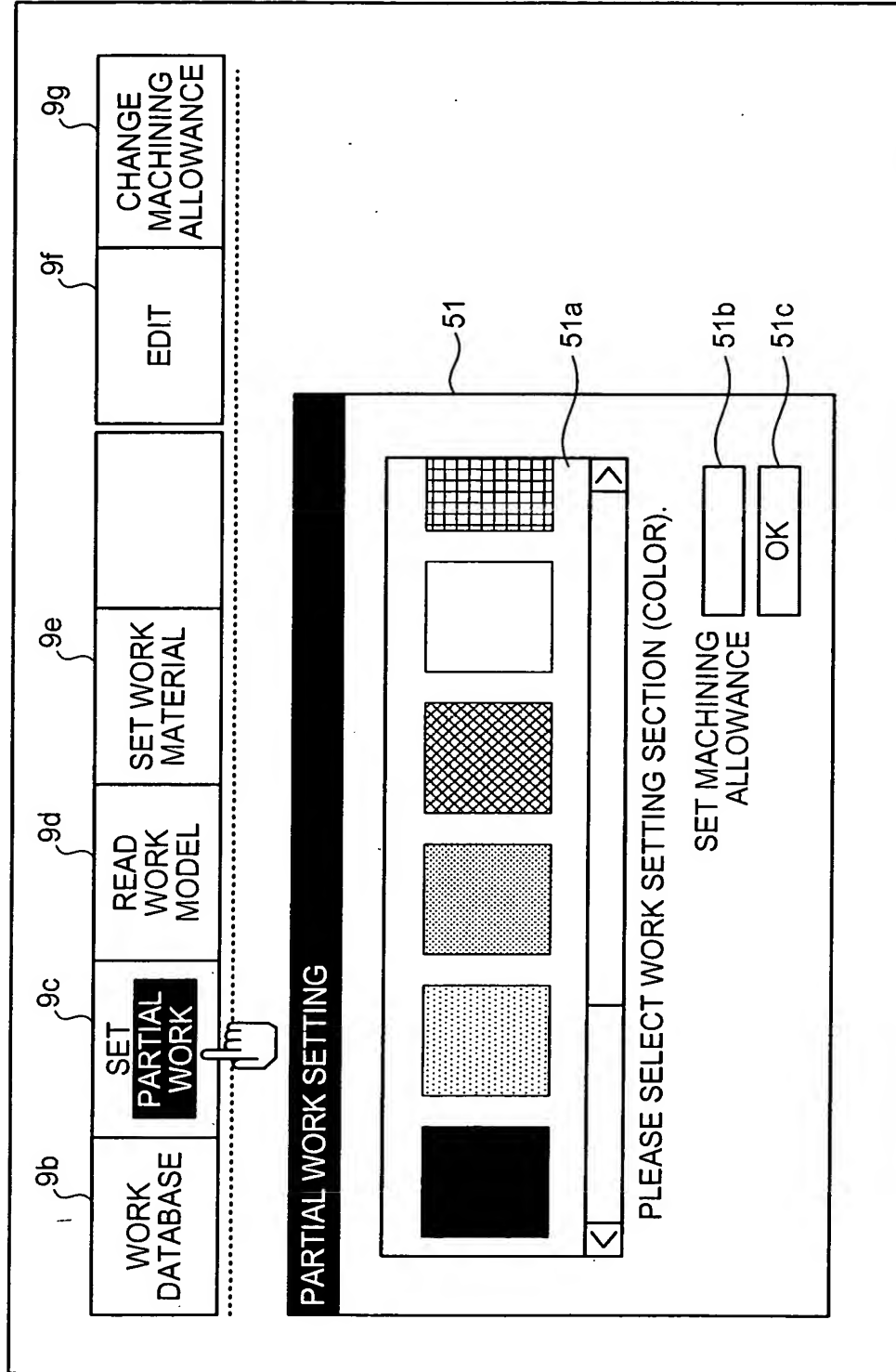
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FIG.19



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FIG.20



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FIG.21

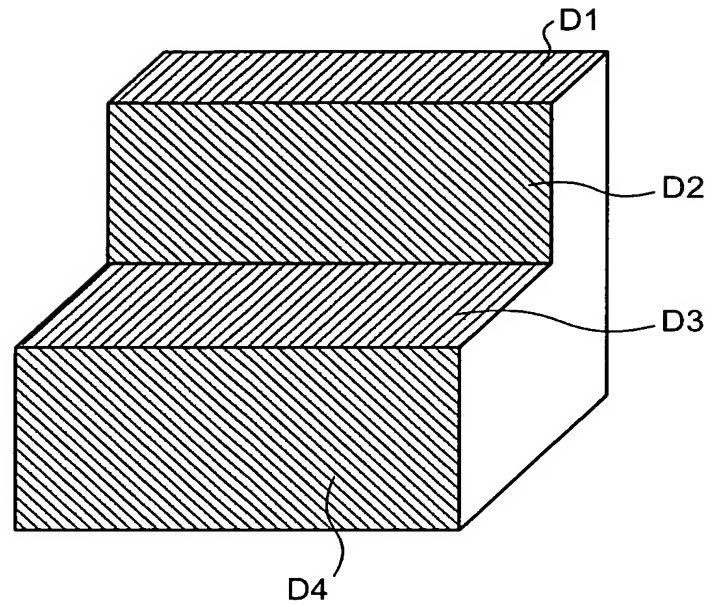
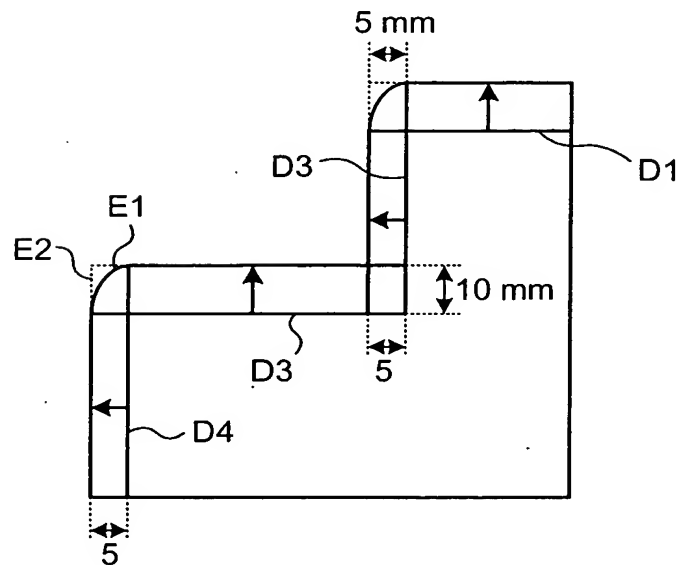


FIG.22



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FIG.23

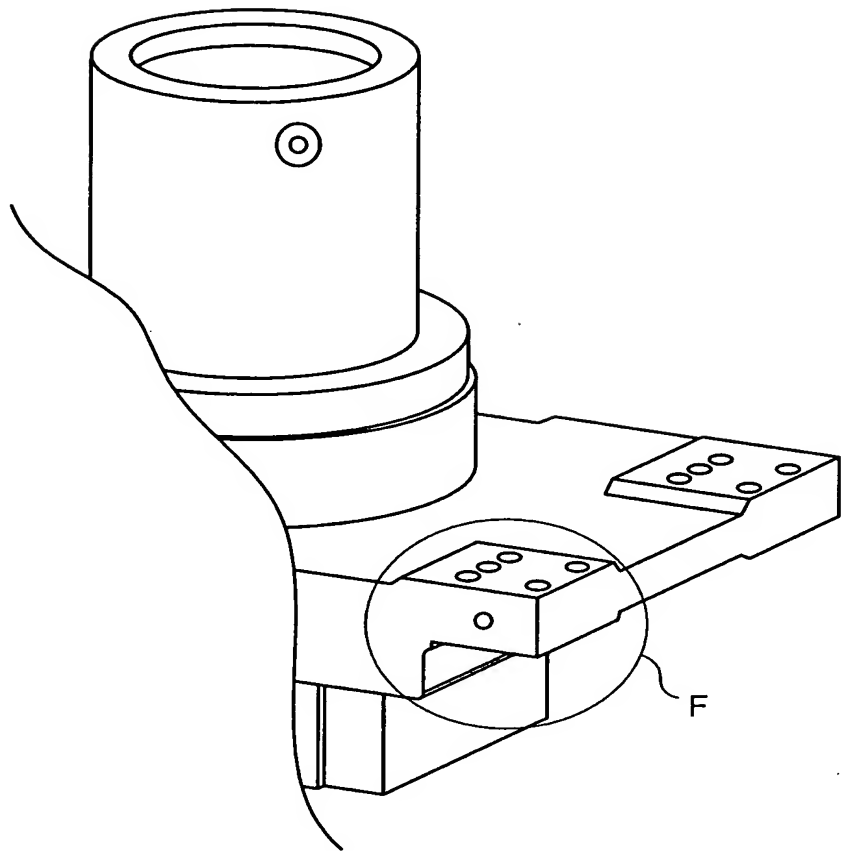
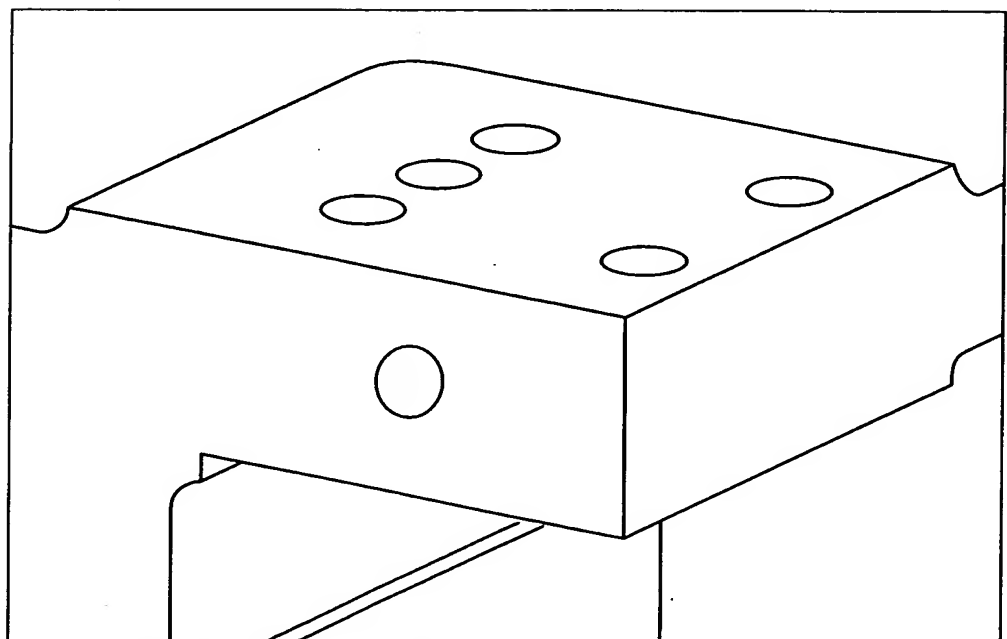


FIG.24



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FIG.25

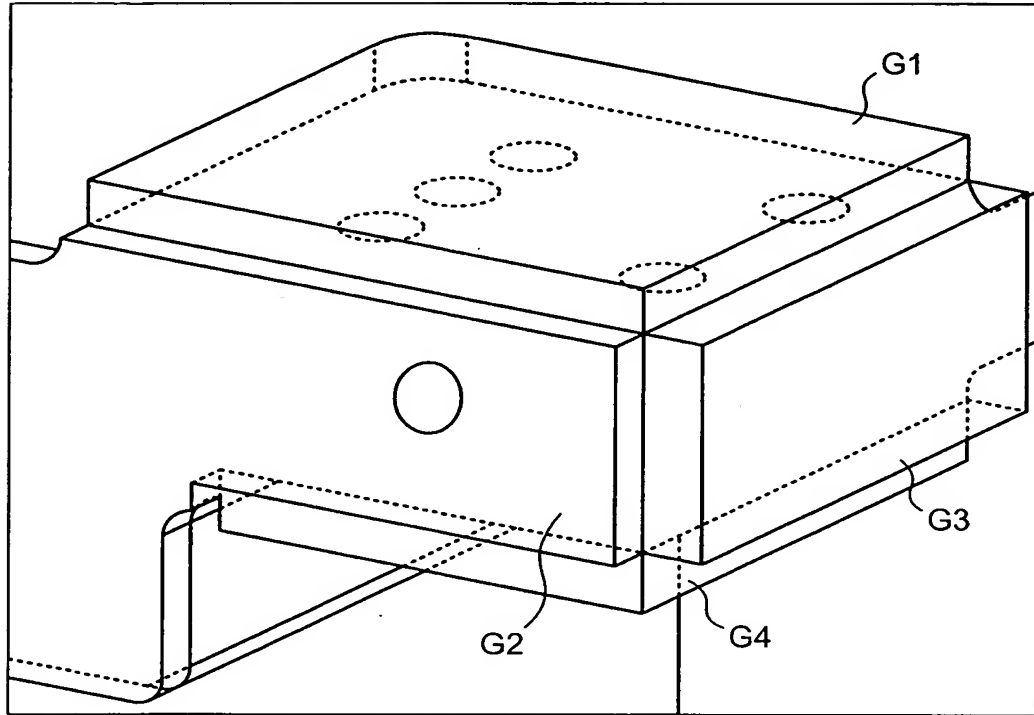
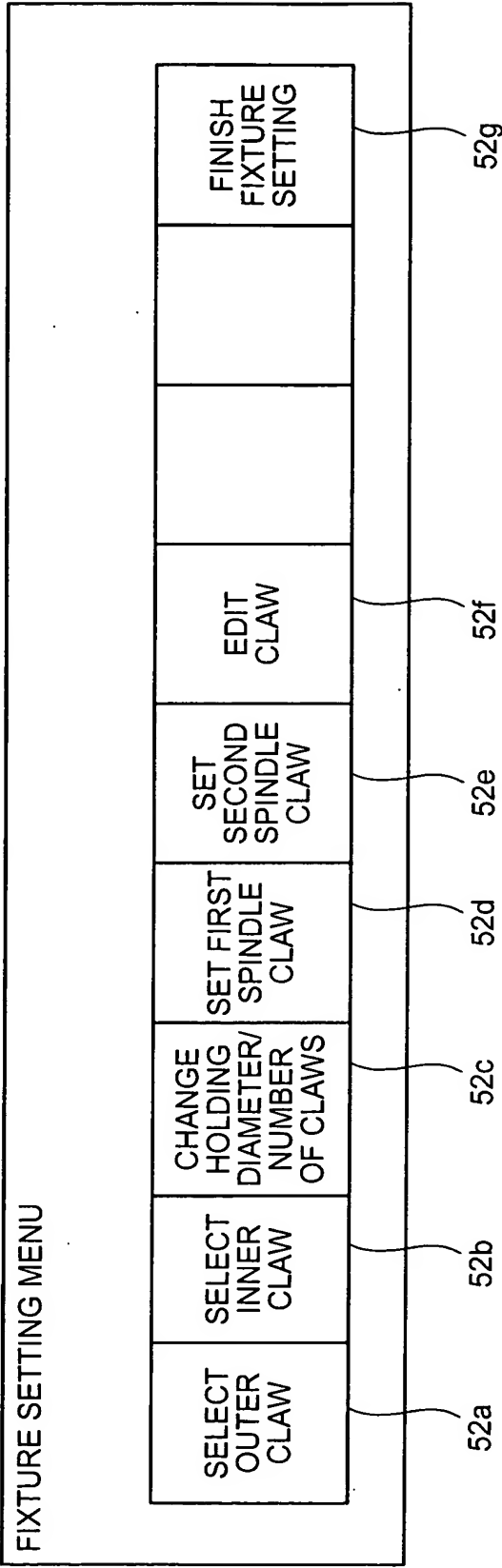


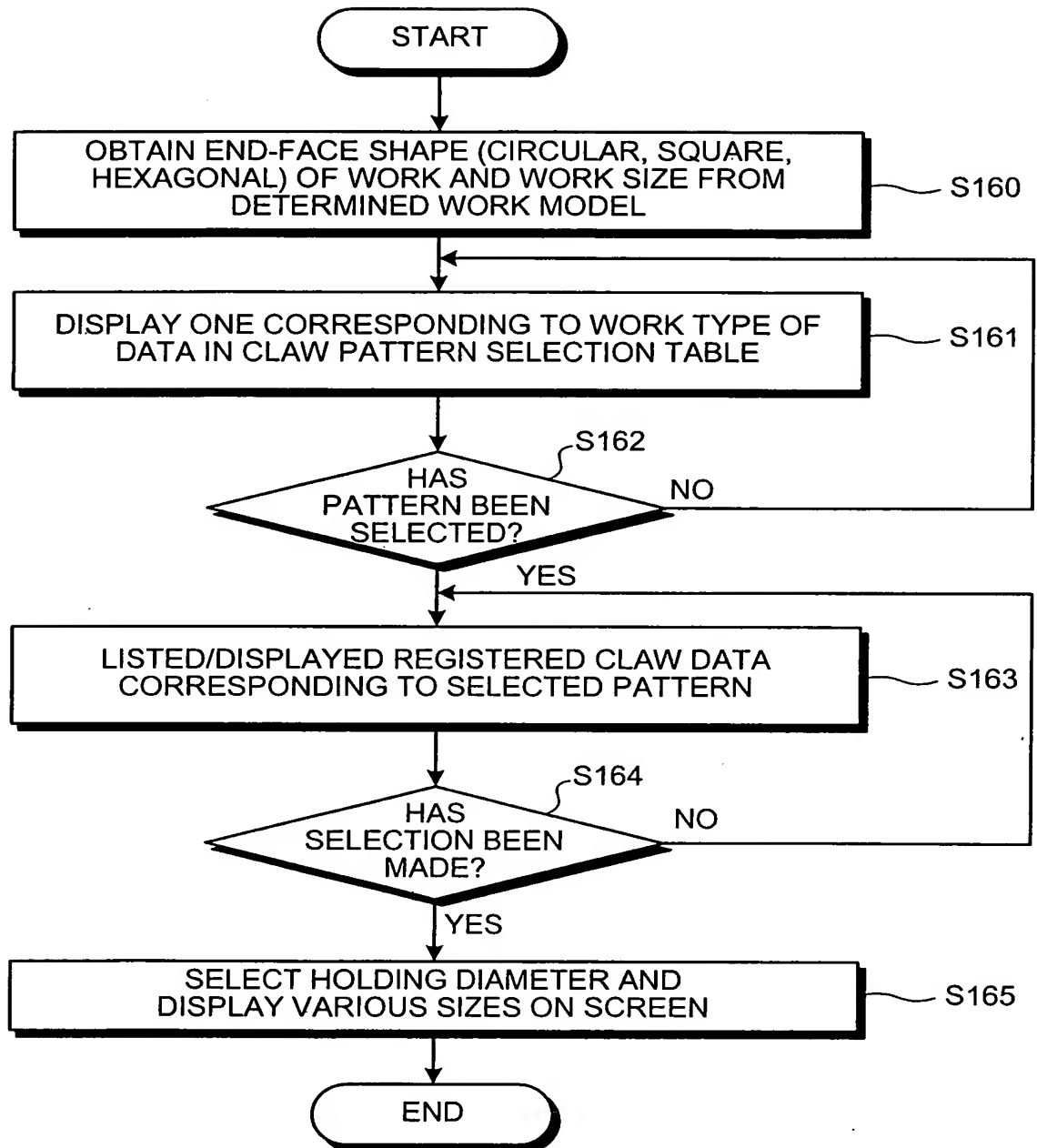
FIG.26

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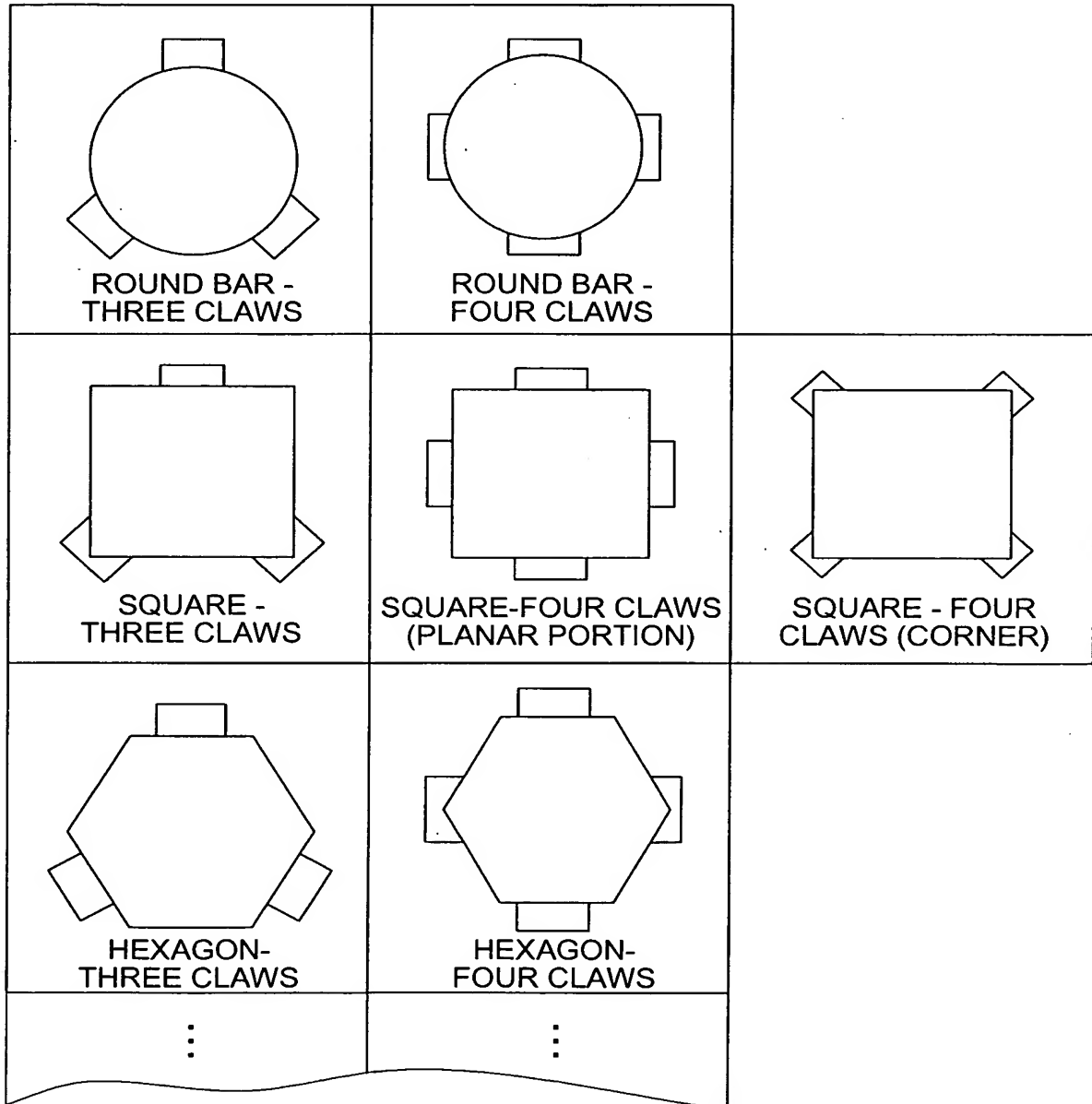
FIG.27



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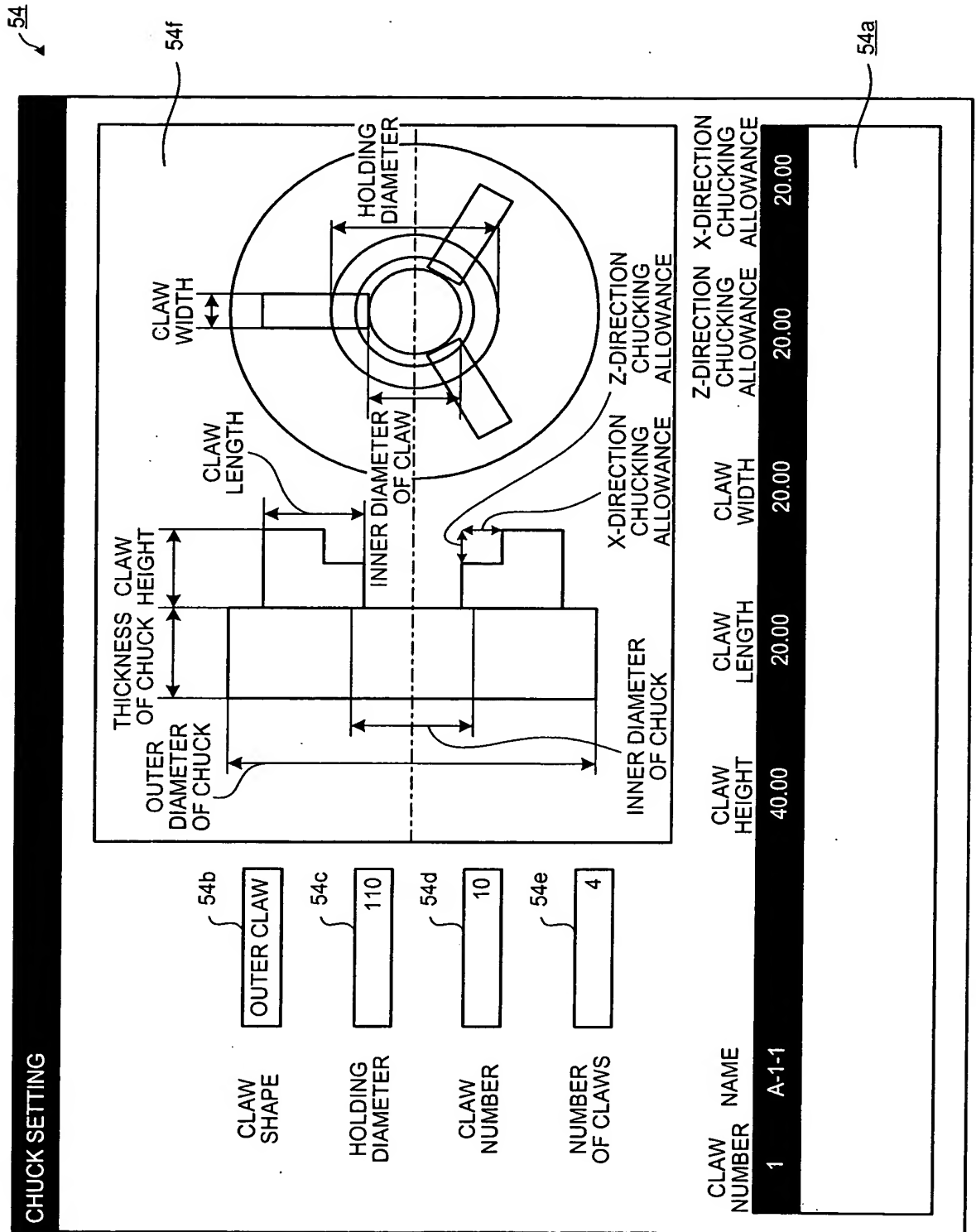
FIG.28

53
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FIG.29



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FIG.30

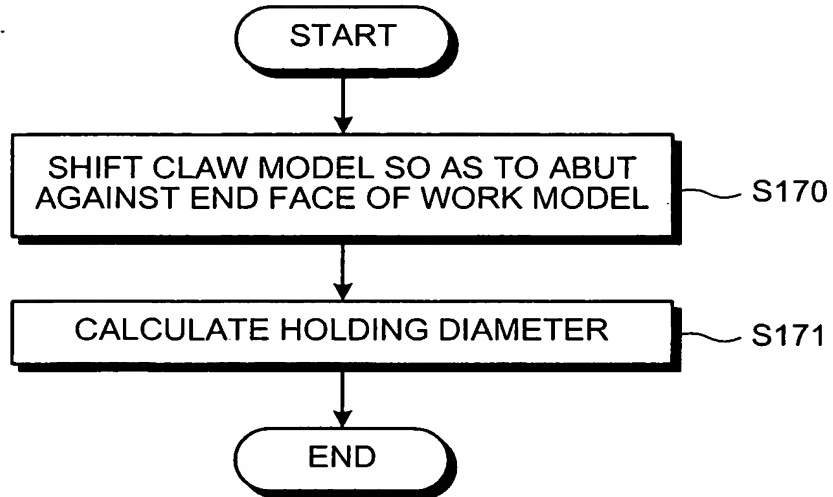
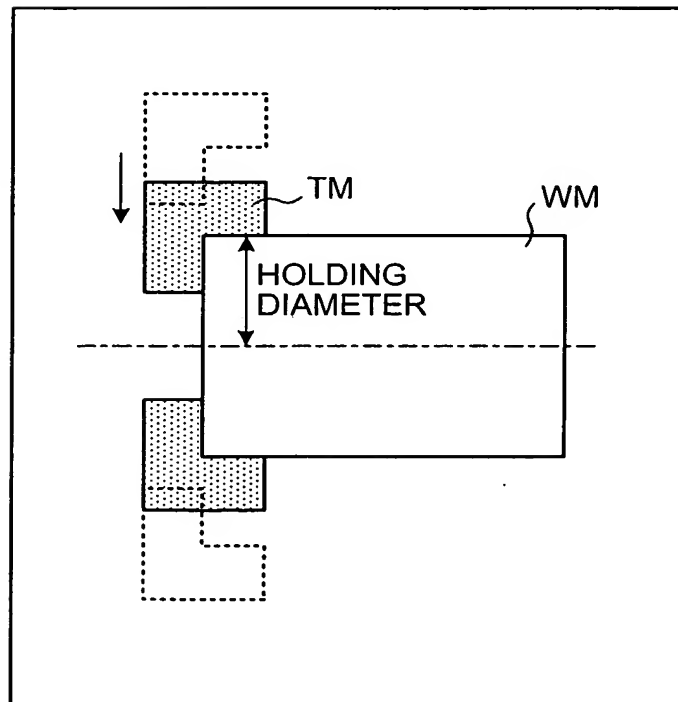
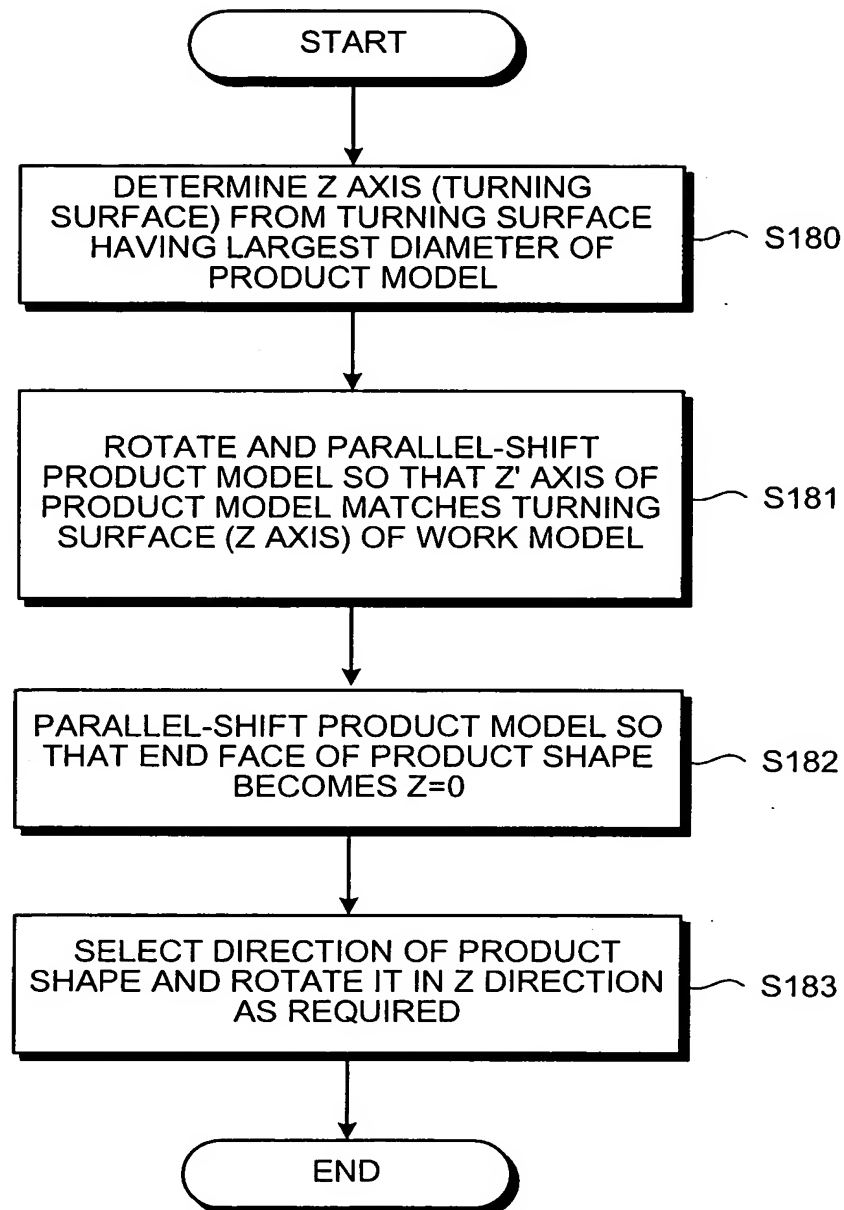


FIG.31



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FIG.32



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FIG.33

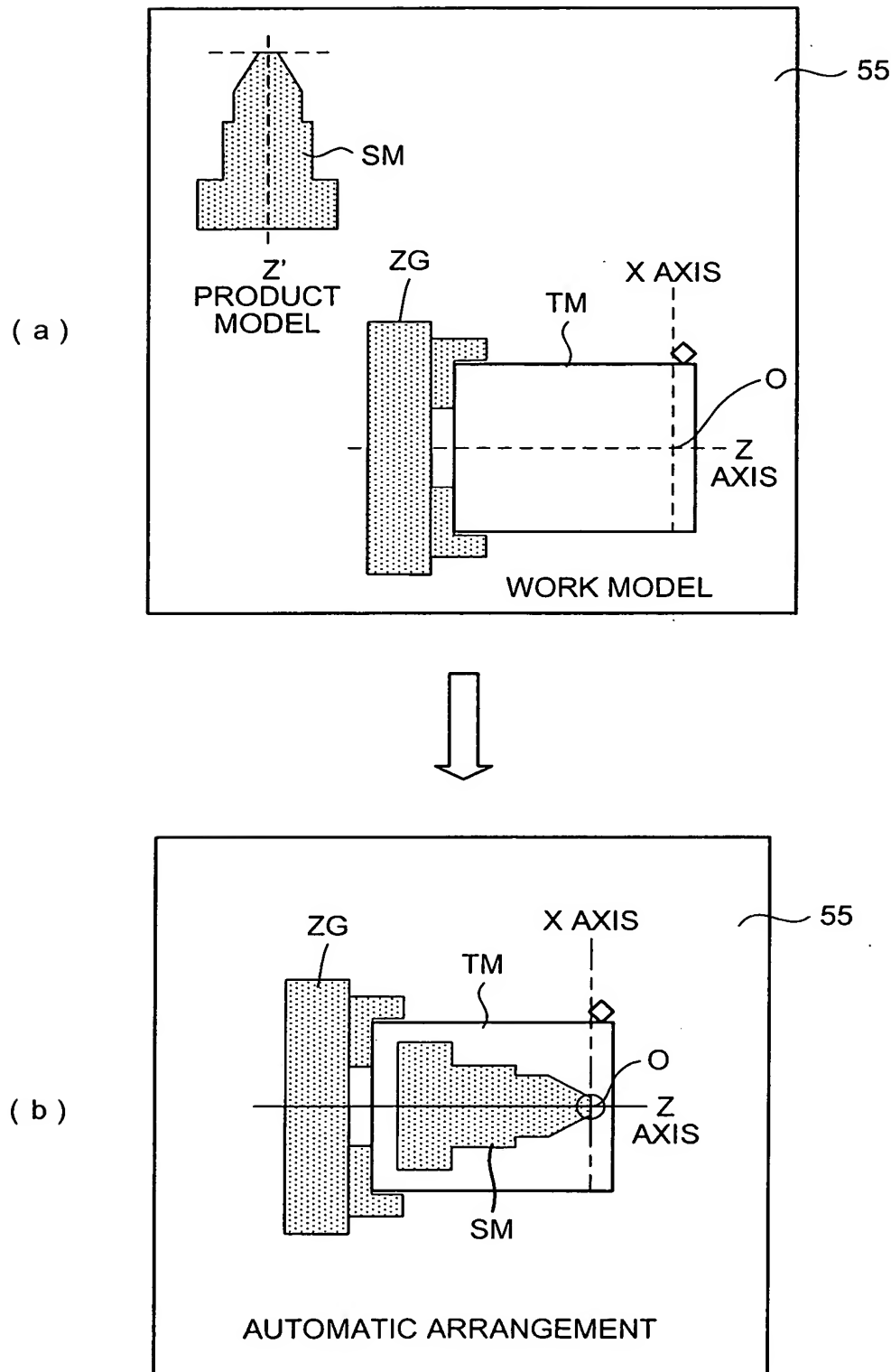


FIG.34A

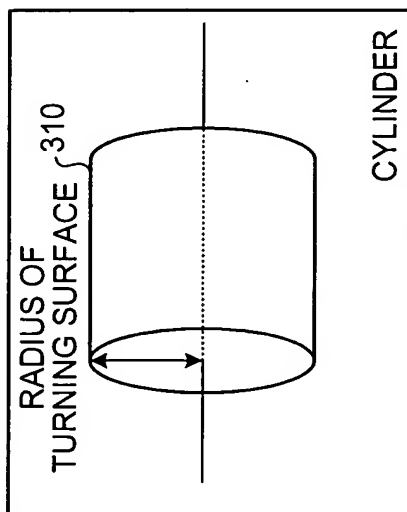


FIG.34B

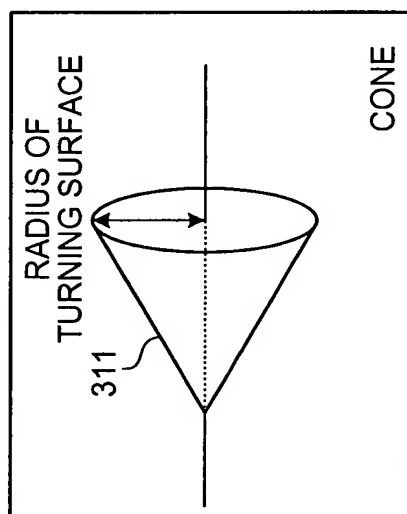


FIG.34E

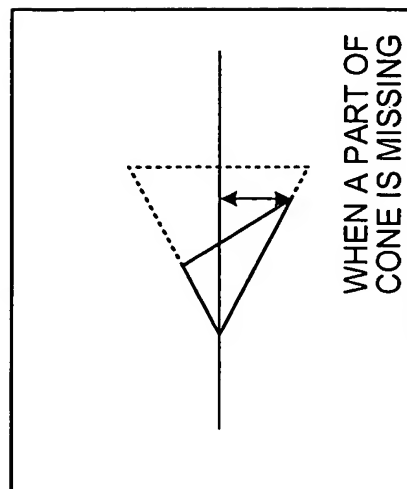


FIG.34C

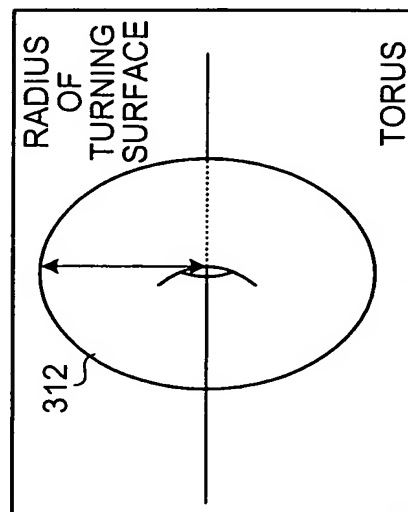
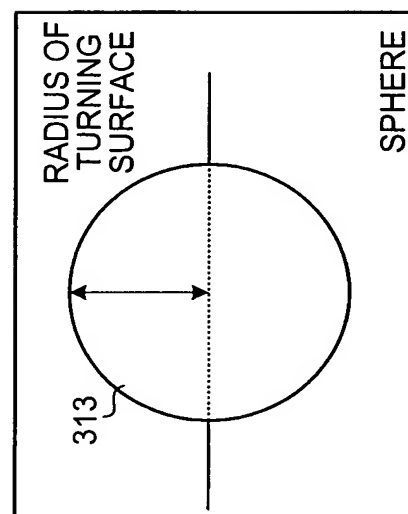


FIG.34D



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FIG.35

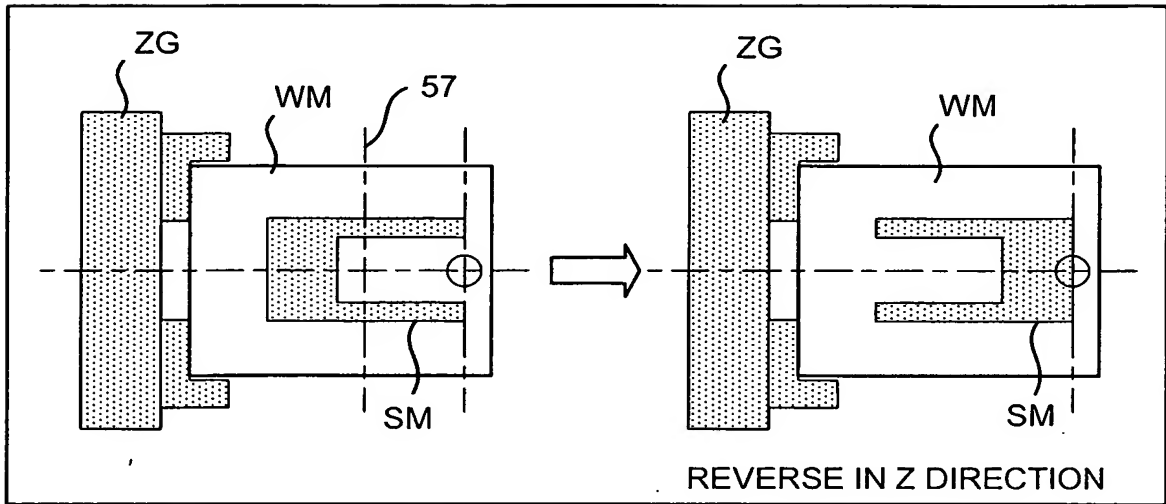


FIG.36

X-AXIS PARALLEL SHIFT	Y-AXIS PARALLEL SHIFT	Z-AXIS PARALLEL SHIFT		X-AXIS ROTATION	Y-AXIS ROTATION	Z-AXIS ROTATION		FINISH SHAPE SHIFT	
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FIG.37

SHAPE SHIFT

☒ PRODUCT SHAPE

☐ WORK SHAPE

☐ FIRST CHUCK SHAPE

☐ SECOND CHUCK SHAPE

STEP AMOUNT 0

SHIFT AMOUNT 0

SHIFT

60

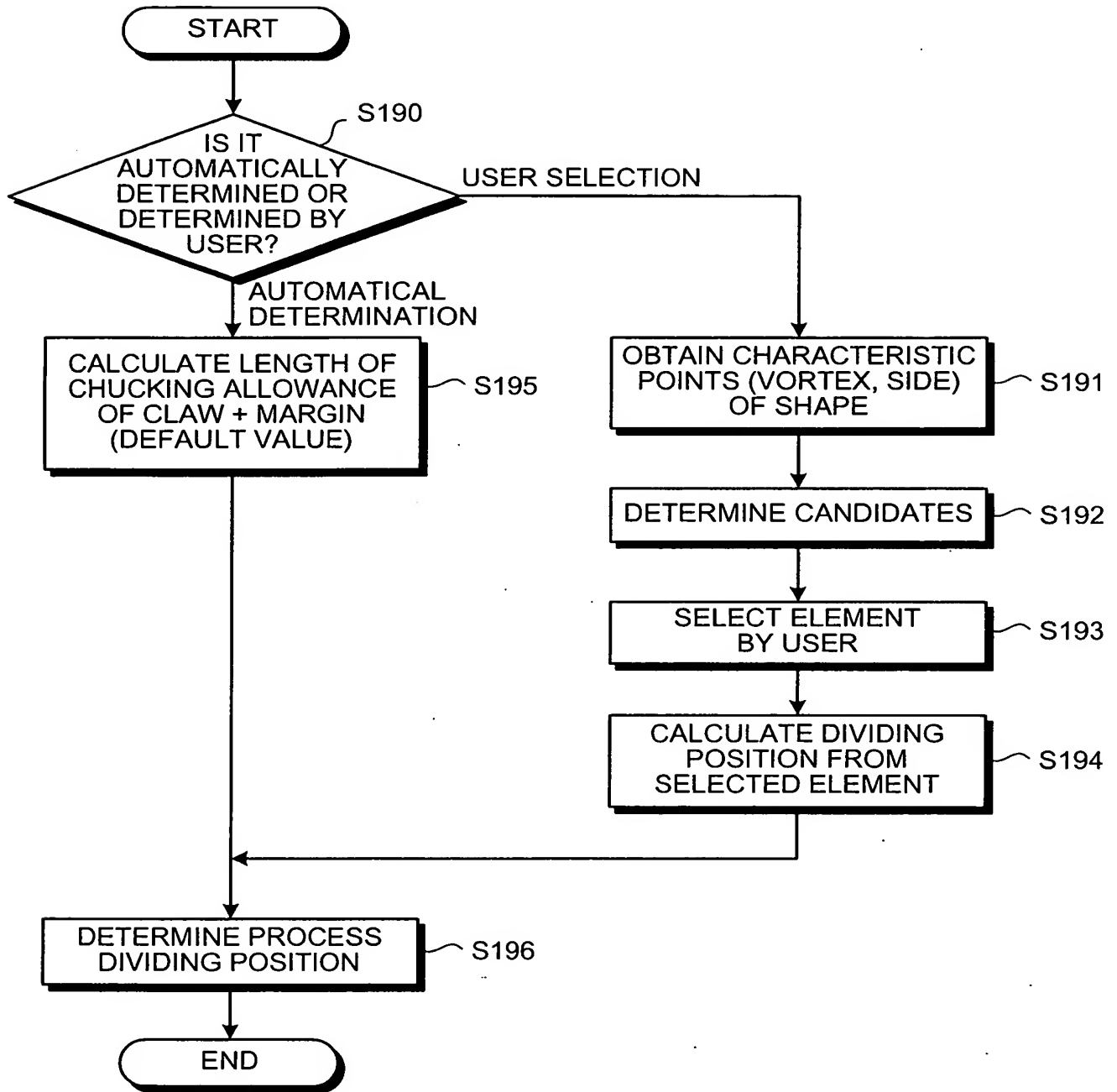
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FIG.38



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FIG.39

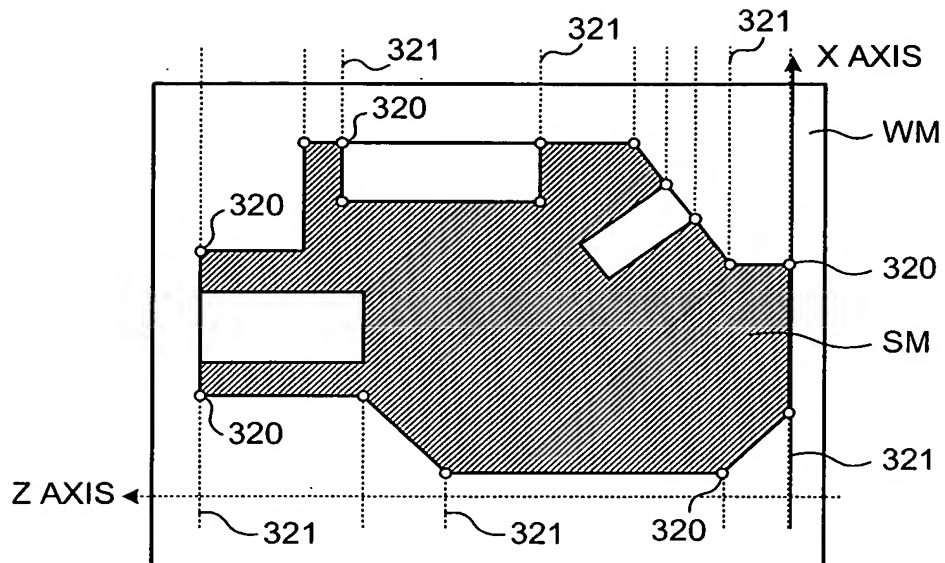
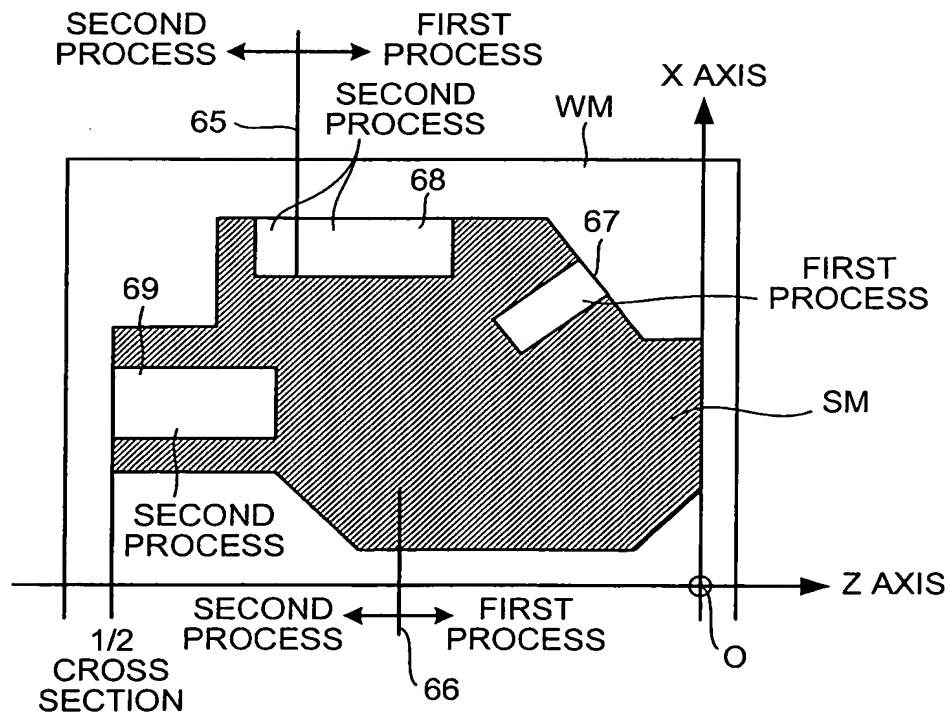


FIG.40



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FIG.41

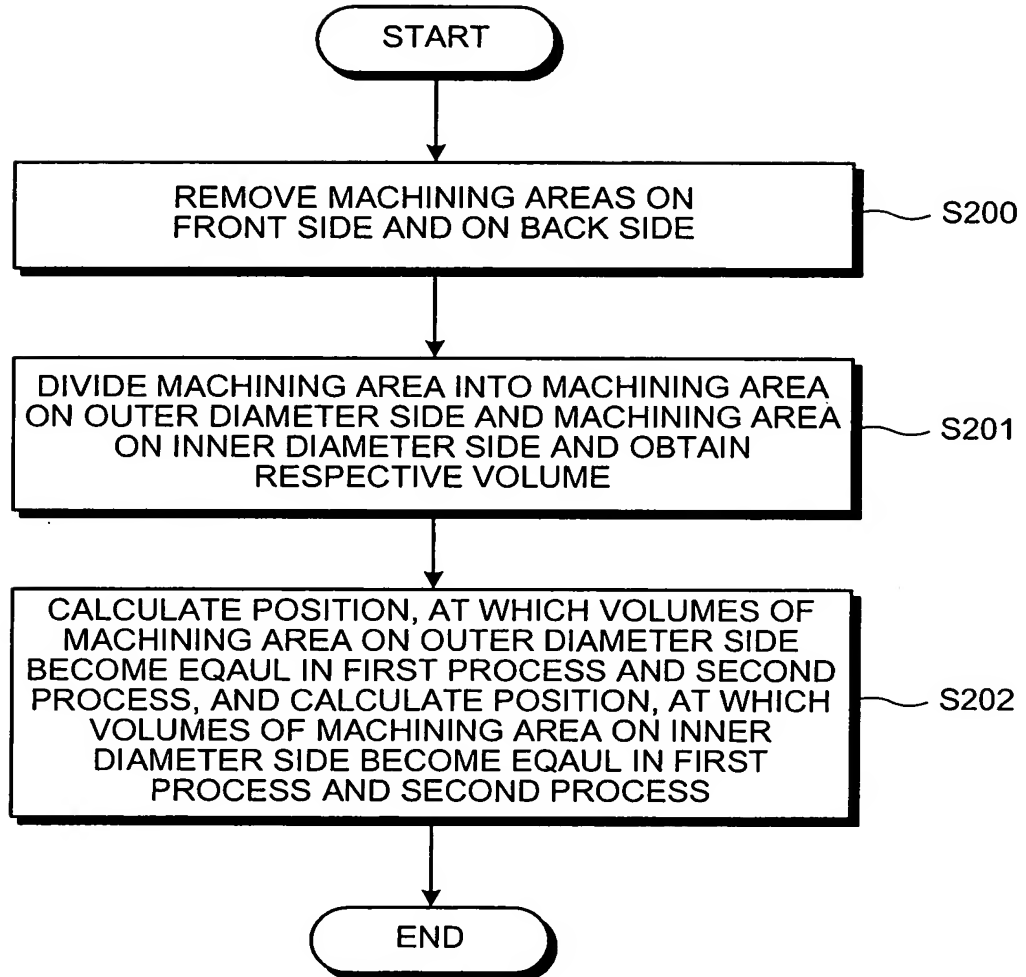


FIG.42A

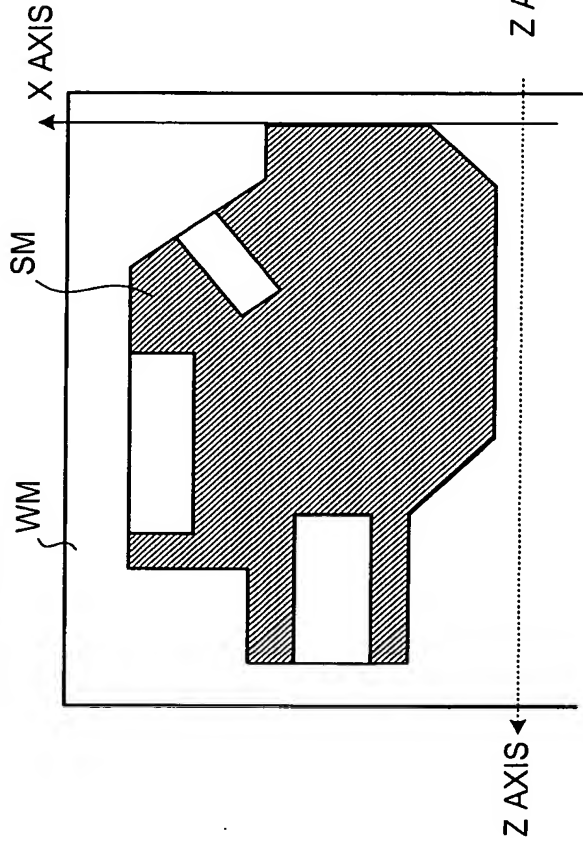


FIG.42B

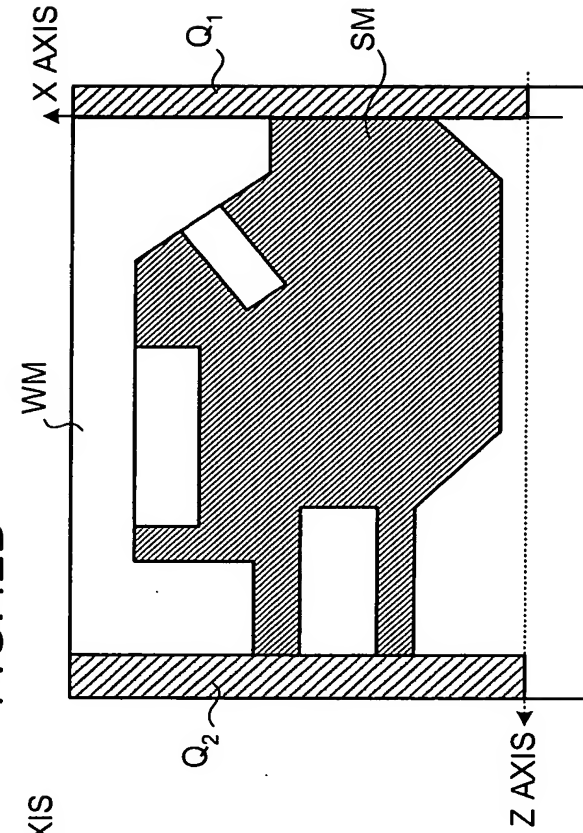


FIG.42C

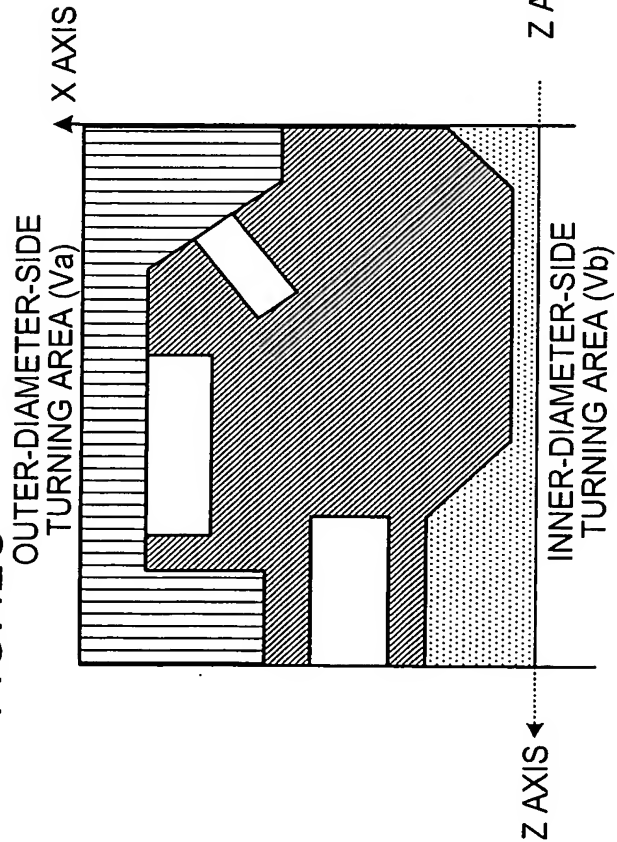
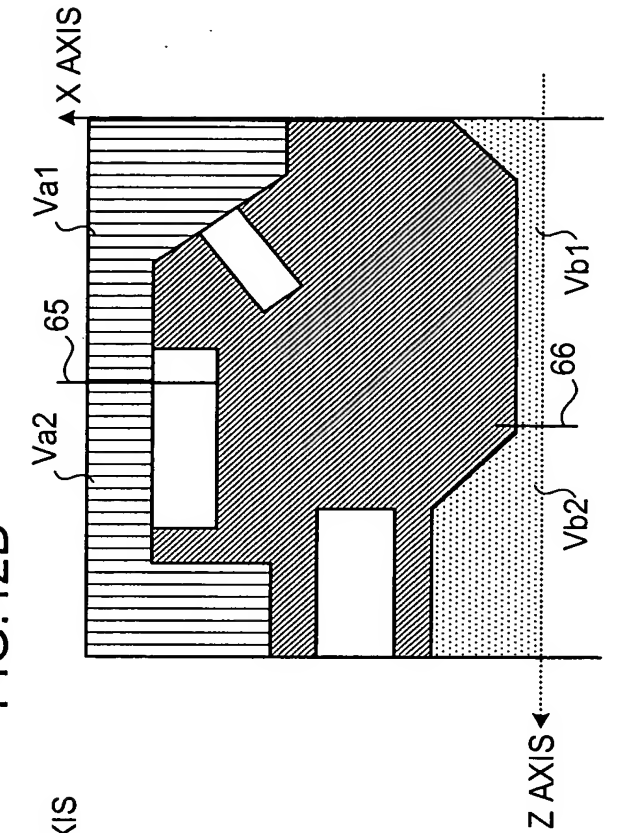
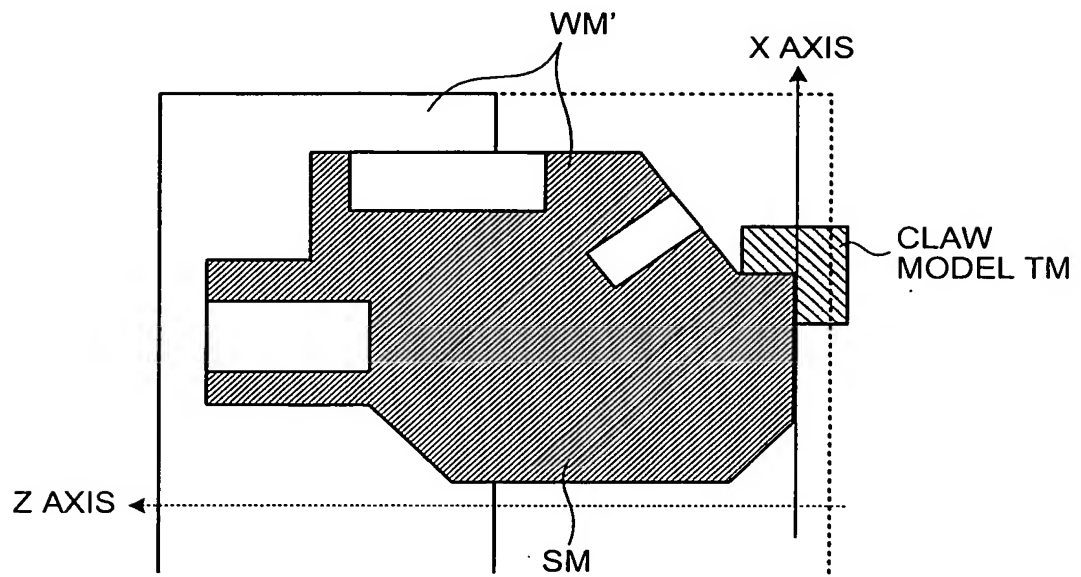


FIG.42D



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FIG.43



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FIG.44A

FIG.44B

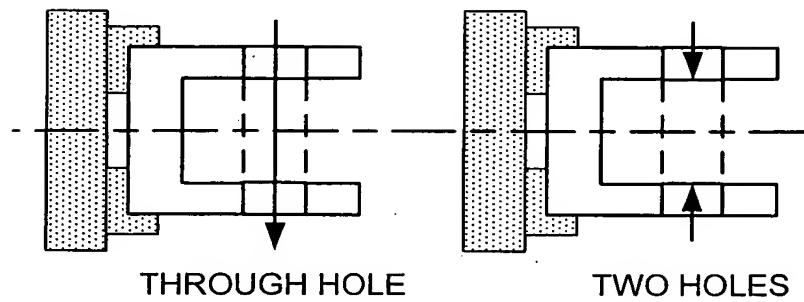
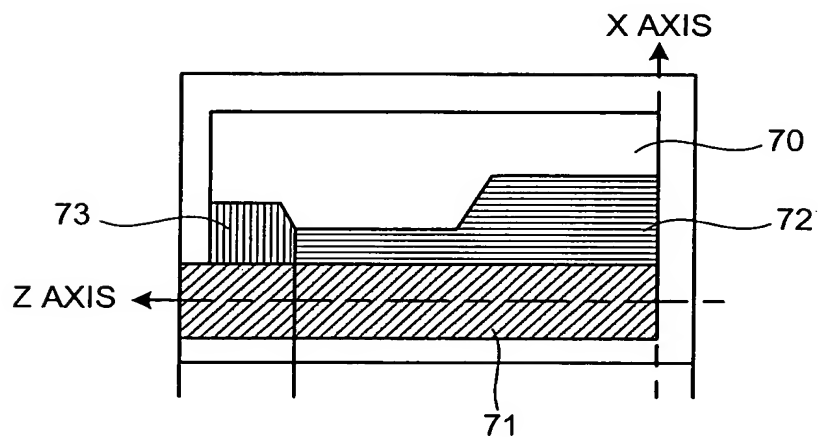


FIG.45



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FIG.46

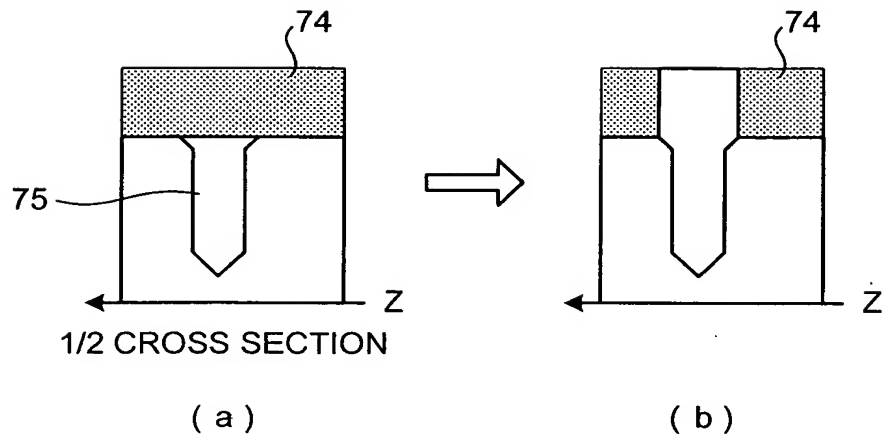


FIG.47

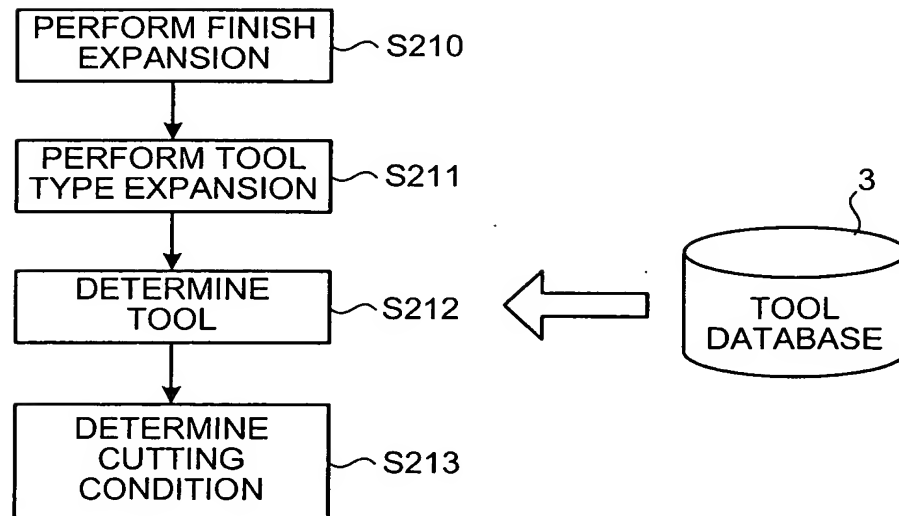
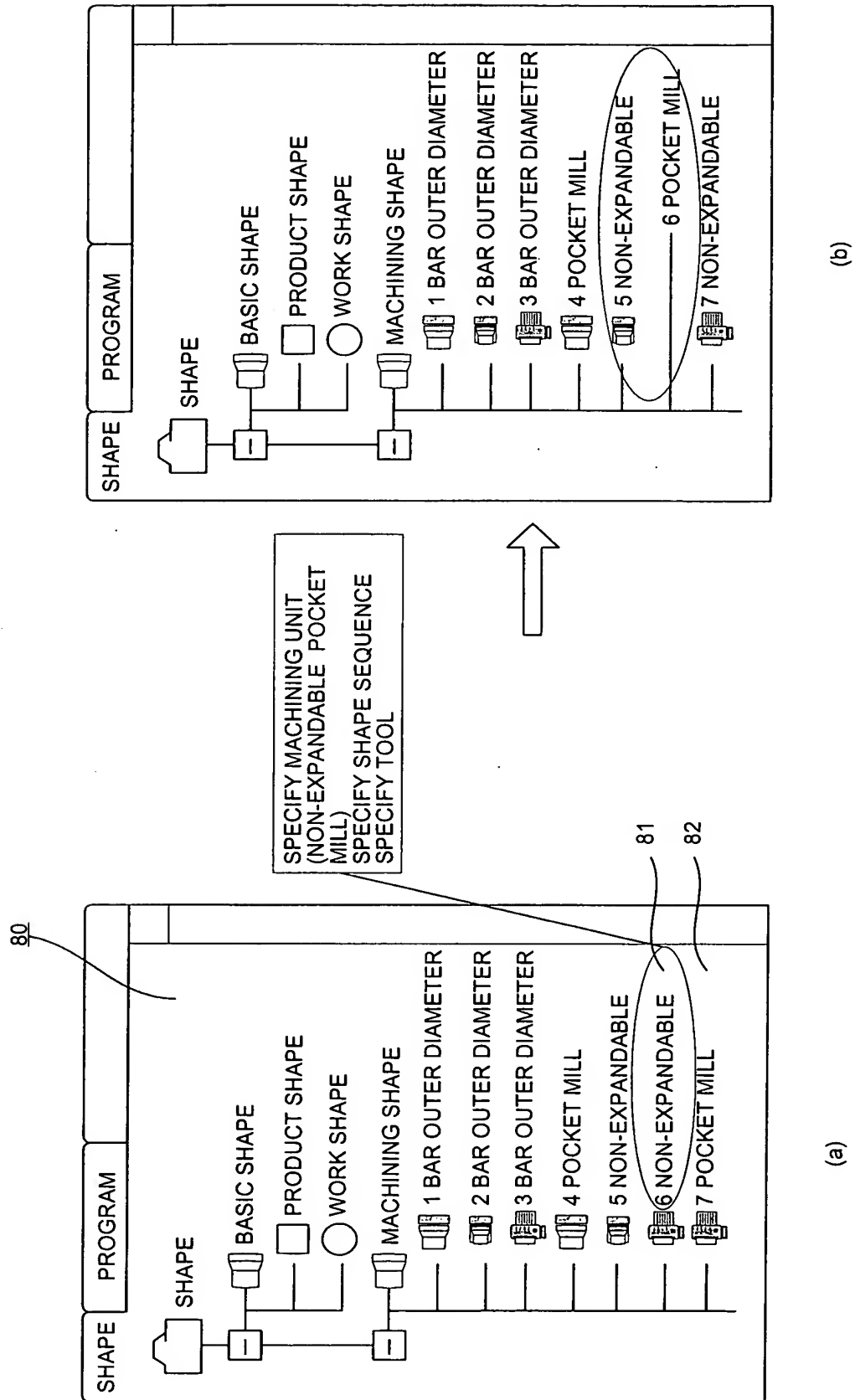


FIG.48



80
85

SHAPE
PROGRAM

PROGRAM
▲

..... COMMON

..... 1 FACE MILL

..... **2 FACE MILL**

..... 3 FACE MILL

..... 4 FACE MILL

..... END

▼

UNO.	UNIT MODE	ANGLE B	POSITION C	MACHINING ALLOWANCE-A	BOTTOM	WALL	AMOUNT OF FINISH-A	AMOUNT OF FINISH-R		
2	FACE MILL	ZY	◆	90.	30.	1	◆	0.		
SNO.	TOOL	NOMINAL DIAMETER	APPROACH 1	APPROACH 2	METHOD	AFD	NOTCH-A	NOTCH-R	PERIPHERAL SPEED	FEED M M
R 1 FACEMILL										
FIG	SHAPE	SURFACE SHIFT R	Z	Y	RADIUS R/Q	I	J	P	CORNER	ROUGHNESS
1	LINE	10.	0.	10.						◆
2	LINE	◆	40.	10.						◆
3	LINE	◆	40.	-10.						◆
4	LINE	◆	0.	-10.						◆
UNO.	UNIT MODE	ANGLE B	POSITION C	MACHINING ALLOWANCE-A	BOTTOM	WALL	AMOUNT OF FINISH-A	AMOUNT OF FINISH-R		
3	FACE MILL	ZY	◆	90.	30.	1	◆	0.		
SNO.	TOOL	NOMINAL DIAMETER	APPROACH 1	APPROACH 2	METHOD	AFD	NOTCH-A	NOTCH-R	PERIPHERAL SPEED	FEED M M
R 1 FACEMILL										
FIG	SHAPE	SURFACE SHIFT R	Z	Y	RADIUS R/Q	I	J	P	CORNER	ROUGHNESS
1	LINE	10.	0.	10.						◆
2	LINE	◆	40.	10.						◆
3	LINE	◆	40.	-10.						◆
4	LINE	◆	0.	-10.						◆
UNO.	UNIT MODE	ANGLE B	POSITION C	MACHINING ALLOWANCE-A	BOTTOM	WALL	AMOUNT OF FINISH-A	AMOUNT OF FINISH-R		
3	FACE MILL	ZY	◆	90.	30.	1	◆	0.		
SNO.	TOOL	NOMINAL DIAMETER	APPROACH 1	APPROACH 2	METHOD	AFD	NOTCH-A	NOTCH-R	PERIPHERAL SPEED	FEED M M

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FIG.50

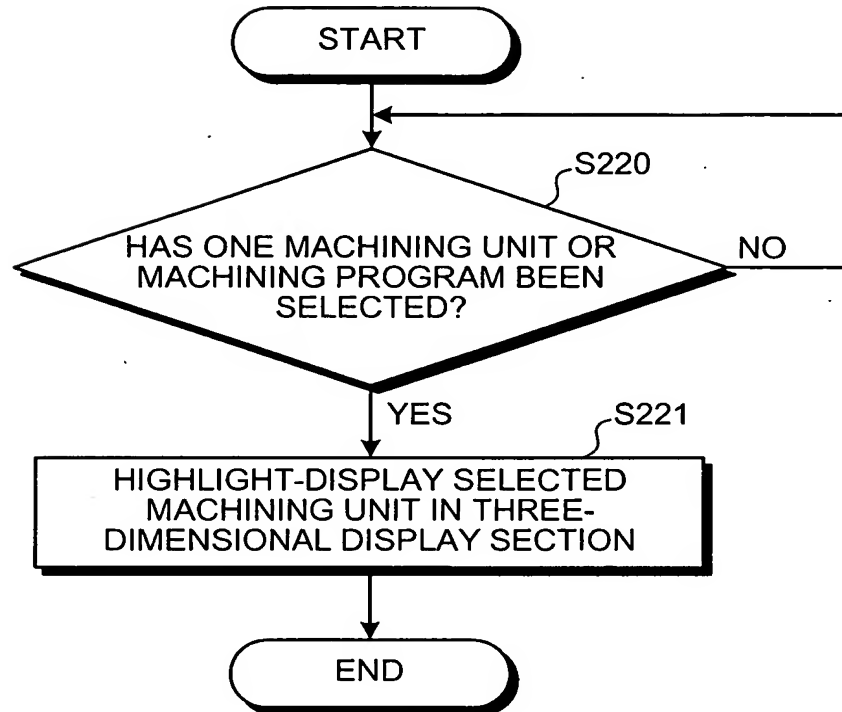


FIG.51A

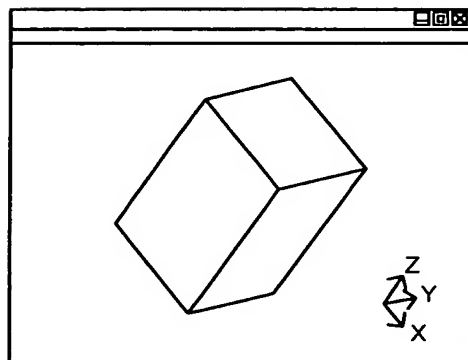
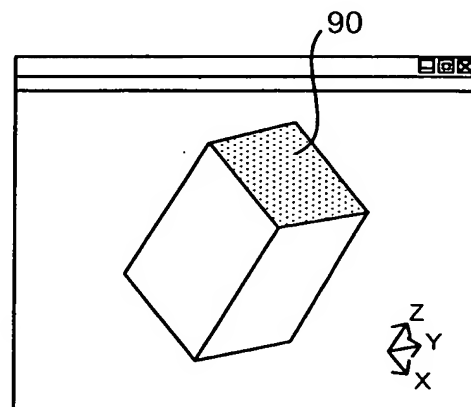
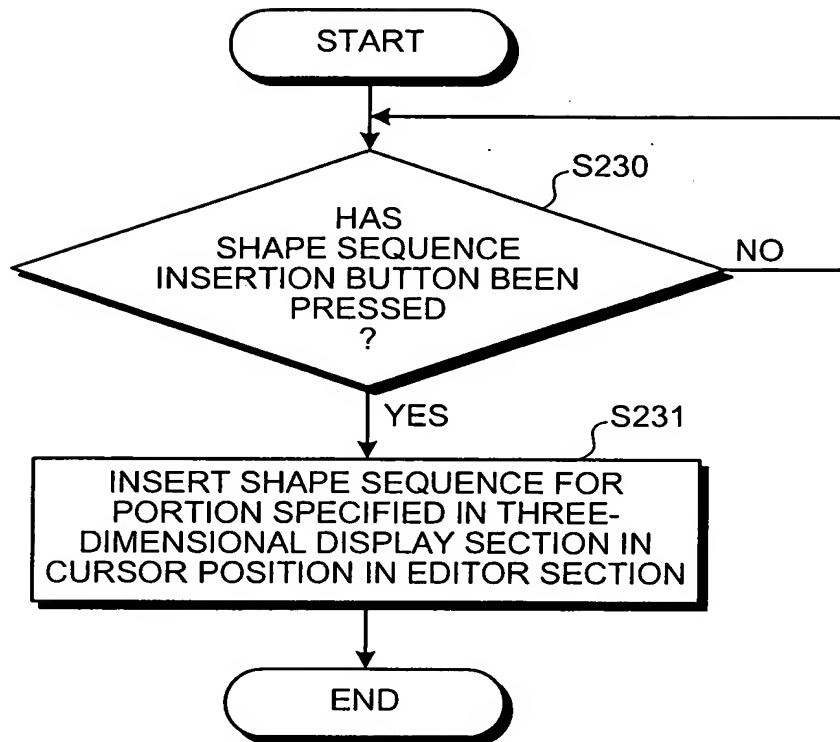


FIG.51B



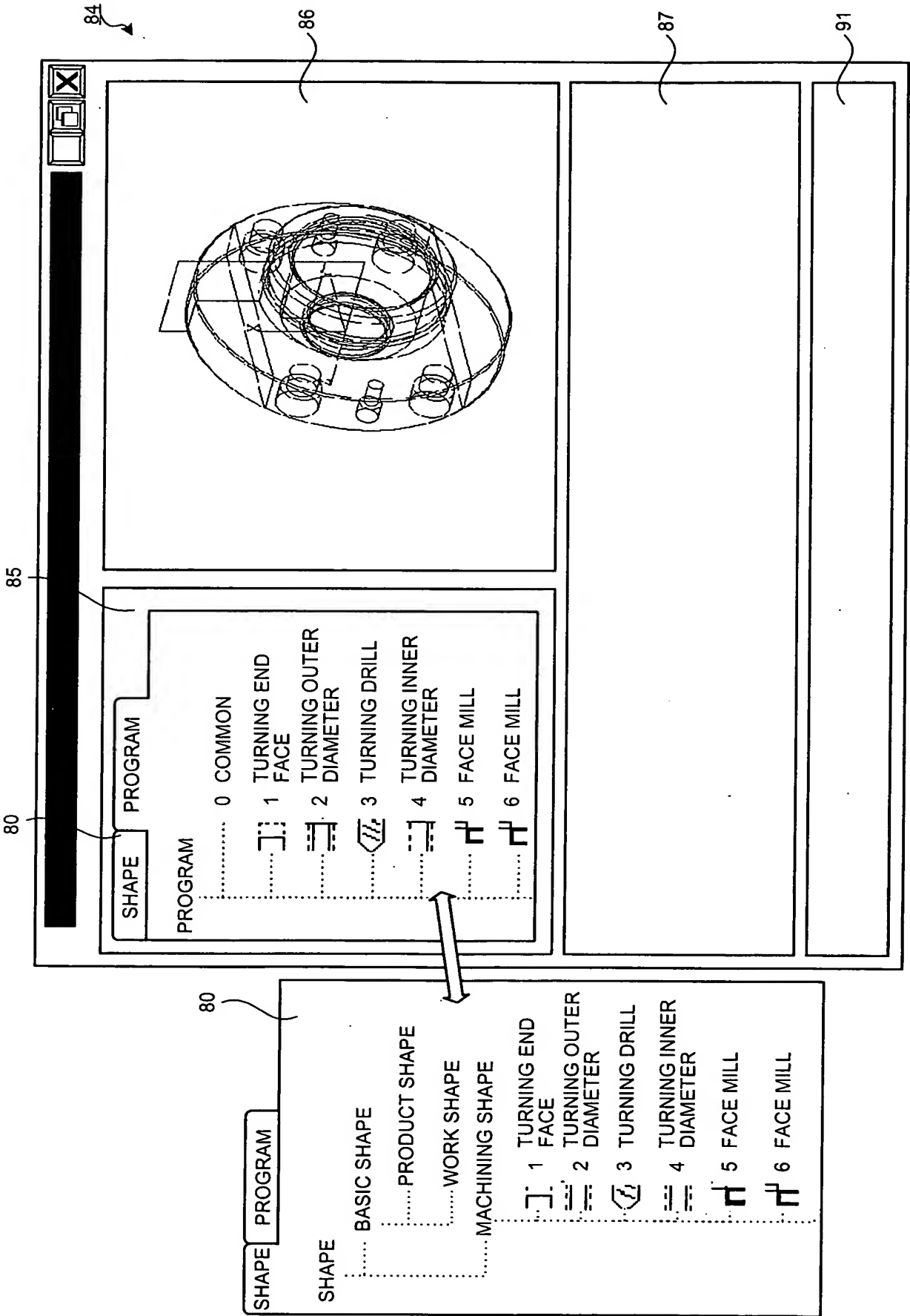
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FIG.52



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FIG. 54



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FIG.55

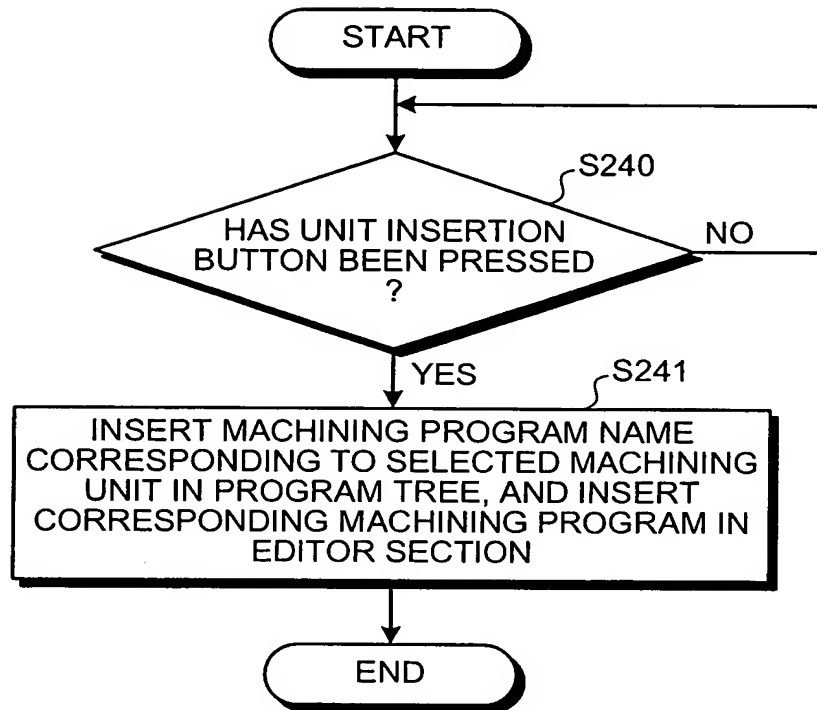
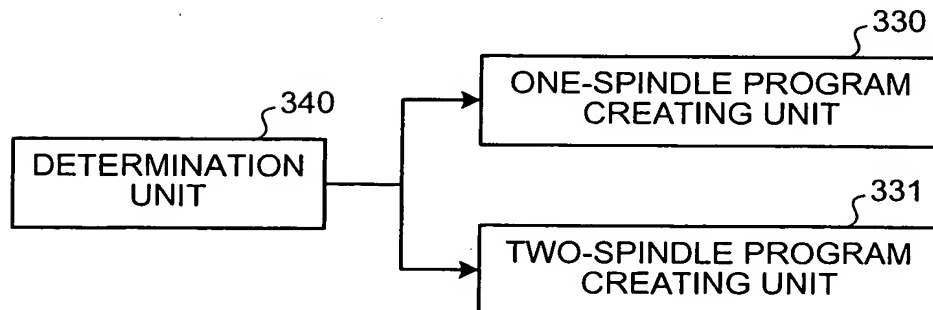


FIG.56



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FIG.57

